IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

C.A. NO. 5:96CV91

THE STATE OF TEXAS

VS

THE AMERICAN TOBACCO COMPANY; R.J. REYNOLDS TOBACCO COMPANY; BROWN & WILLIAMSON TOBACCO CORPORATION; B.A.T. INDUSTRIES, P.L.C.; PHILIP MORRIS, INC.; LIGGETT GROUP, INC.; LORILLARD TOBACCO COMPANY, INC.; UNITED STATES TOBACCO COMPANY; HILL & KNOWLTON, INC.; THE COUNCIL FOR TOBACCO RESEARCH - USA, INC. (Successor to Tobacco Institute Research Committee); and THE TOBACCO INSTITUTE, INC.

VIDEOTAPED

ORAL DEPOSITION

OF

ROBERT C. WOODY, M.D.

July 21, 1997

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5910 North Central Expressway
Dallas, Texas 75206-5136

COPY

ANSWERS AND DEPOSITION OF ROBERT C. WOODY, M.D., produced as a witness at the instance of the Plaintiff, taken in the above-styled and -numbered cause on the 21st day of July, 1997, before Ronald R. Cope, a Certified Shorthand Reporter in and for the State of Texas, Registered Professional Reporter and Certified Realtime Reporter, at the offices of Jones, Day, Reavis & Pogue, located at 2001 Ross Avenue, in the City of Suite 2300, County of Dallas and State of Texas, in accordance with the Federal Rules of Civil Procedure and the agreements hereinafter set forth.

APPEARANCES

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ALSO PRESENT: MR. BRIAN JAMES
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P R O C E E D I N G S

THE REPORTER: Do you wish to place any agreements on the record?

MR. GIBLIN: By the Rules.

THE VIDEOGRAPHER: We're on the video record.

ROBERT C. WOODY, M.D.,

the witness hereinbefore named, being of lawful age and being first duly cautioned and sworn in the above cause, testified on his oath as follows:

EXAMINATION

BY MR. GIBLIN:

Q Doctor, would you please state your name for the record.

A Robert C. Woody.

Q Doctor, my name is Robert Giblin and to my right is Bryan Blevins. We're here representing the State of Texas in a lawsuit that's been brought against the various tobacco manufacturers. You're aware of that?

A Yes, I am.

Q Have you ever given a deposition before, Doctor?

A Yes.

Q So I take it, then, you're familiar

09:41 1 with what we're doing here today. If you want to
2 take a break at any time, just let me know.
3 That's no problem. If I ask you a question that
4 doesn't make sense or isn't very clear, which I'm
09:41 5 prone to do, let me know and I will try to clear
6 it up before you answer, okay?
7 A All right.
8 Q Doctor, we had been provided several
9 documents last week prior to your deposition.
09:4210 I've already had them marked. I will get you to
11 identify them at this point. We'll talk about
12 them a little later. First is marked Woody
13 Exhibit Number 1, and is that a copy of your
14 summary report in this case?
09:4215 A It is.
16 Q Okay. Next is an article entitled
17 "Antenatal Hypoxia and Low IQ Values" marked as
18 Woody 2. Is that one of the documents that you
19 furnished that you relied upon in this case?
09:4220 A It's one of the documents that I
21 furnished, yes.
22 Q Is it also a document that you relied
23 upon in supporting your opinions?
24 A No. Not necessarily.
09:4225 Q Let me show you what's been marked as

Woody Exhibit 3. Is that also a document that was one of the documents that you reviewed in formulating your opinions?

A It's one of the documents I reviewed. That's right.

Q I show you what's been marked as Woody Exhibit Number 4. The same question.

A Yes.

Q Okay. Woody Exhibit 5, Doctor.

A Yes.

Q It's also a document you reviewed in -- is your testimony that you're not going to -- you didn't rely on any of these documents in formulating your opinions?

A Some of them I did. Some of them are just documents that I furnished because I had either read them or reviewed them in detail, varying degrees, but just because they're in the stack here or furnished to you doesn't mean that they're the core of my opinion.

Q I understand. Let me show you what's been marked as Woody Exhibit Number 6. That also was a document --

A Yes, I read this.

Q -- furnished to us. And that's

something you read in formulating your opinions?

A Yes.

Q Woody Exhibit Number 7.

A Yes.

Q Same question.

A I reviewed it, yes.

Q Woody Exhibit No. 8.

A Yes. I reviewed this.

Q Again, those were documents furnished to us. Those were documents that you reviewed in formulating your opinions; is that correct?

A Basically, yes.

Q Let me show you what's been marked as Woody Exhibit Number 9. Same question: Is that one of your documents that you reviewed in formulating your opinions?

A Yes.

Q Same question with regard to Woody Exhibit Number 10.

A Yes.

Q Okay. Thank you. Put those out of the way for now, maybe.

Doctor, when were you first contacted about becoming an expert witness in this case?

A Probably in the fall of '96.

Q And who contacted you?

A Mr. Hlavinka.

Q And who is Mr. Hlavinka?

A Victor Hlavinka, sitting to my left, is the attorney from Texarkana.

Q Did you know Mr. Hlavinka before he contacted you?

A Yes.

Q How did you know him?

A We've known each other since about 1985. I was head of child neurology at the University of Arkansas and he visited with me to review a medical-legal case.

Q When Mr. Hlavinka first contacted you, what did he tell you about this case?

A The first contact was a review of the actions that at that time I guess about 22 states were taking to hope to recover Medicaid expenses from the smoking industry. And he told me that tentatively there appeared to be some interest in looking into the potential relationship of maternal smoking and neuropsychiatric or neurobehavioral outcomes in offspring and asked if I would be interested in reviewing data and literature.

Q You understand from that meeting, though, that you would be working on behalf of the tobacco companies?

A Well, from that meeting, I understood that I would be reviewing literature on that topic I mentioned.

Q But obviously you understood at that time that it was the position of the tobacco companies that there was no link between maternal smoking and these neurodevelopmental problems, correct?

A I wasn't aware of what the position of the tobacco company was on that. That's a fair assumption to make in retrospect, yeah.

Q You're aware that that is their position they're taking today; is that correct?

A Well, I've never had that discussion with anyone, but that's, like I say, a fair assumption I've made.

Q What did you tell them that you would do after you had your initial meeting? Did you tell them, yes, that you would review the literature, or what happened?

A I told them I'd wait --

Q What was the process?

A I told them I would wait to hear from them after the first telephone conversation.

Q And the first contact would have been in the fall of 1996?

A The best of my knowledge.

Q Okay. And did you eventually hear from them again?

A It was several months later, I did.

Q Okay. Who did you hear from several months later?

A Mr. Hlavinka.

Q What did he tell you at that time?

A I really -- I can't specifically remember the conversation. I could -- I could sort of assume that he said he was going to furnish me some documents to start a review, then he outlined the topic and asked me to formulate some opinion on that hypothesis that had been raised. And then probably we arranged a meeting where he would come to El Paso. But again, I don't remember that meeting or that conversation at all, really.

Q Okay. Did -- during this period of time, either -- right around the time of the second contact with Mr. Hlavinka, had you spoke

with anyone directly employed by the -- other than an attorney -- directly employed by the tobacco companies?

A No, I never have.

Q To this day you never have?

A Never have.

Q Have you talked with any of the physicians or doctors employed by the tobacco companies in this case?

A Physicians or doctors. The only person I might think of is Susan Carchman, who's a physician, but she's also an attorney in the case, who has some relationship with tobacco companies. But no, no other physicians or MD's.

Q Susan Gartsman?

A Carchman.

Q Carchman. Okay. Where is she located?

A She's in Richmond, Virginia.

Q How many times have you talked with her about this -- the issue in this case, the neuropsychiatric and neurodevelopmental --

A Again, she's an attorney also and she's somehow involved with the other attorneys. So my conversations with her have been the same

context as these people. But to answer your question, I've talked to her, I believe, three times.

Q Has she furnished you any information?

A No.

Q Have you furnished her with any written information, any documents?

A Indirectly through the attorneys, through the other attorneys.

Q Okay. So several months after the first contact you again spoke with Mr. Hlavinka -- I have a hard time with that and I apologize.

MR. HLAVINKA: No problem.

Q (By Mr. Giblin) At that point he indicated he was going to outline the topic for you and you were going to formulate some preliminary opinions; is that correct?

A He was going to furnish me records and we would formulate my opinion -- I would formulate my opinion on hypothesis of potential relationship between maternal smoking and adverse neuropsychiatric or neurobehavioral outcomes in offspring.

Q Was there some written outline provided to you?

A No.

Q Have you been contacted by the attorneys representing the tobacco companies in any other state cases?

A No.

Q At this time do you plan on having any involvement in any of the other state cases pending across the country?

A No. I will not have any.

Q You will not?

A (Witness shakes head.)

Q Why is that?

A I have no interest in doing it.

Q Are you affiliated with any expert witness services?

A No.

Q Okay. Were you eventually provided with some records?

A Some records, yes.

Q What did you receive?

A Would you like me to go through them one by one?

Q Yes, sir, if you would.

A Okay. These are two records which I had brought up to Mr. Hlavinka that -- and he ran

09:51 1 them down and copied them, sent them to me. I
2 suggested that these would be useful. These are
3 the Boarder Health Conferences held in El Paso and
4 McAllen, Texas, in 1989 and 1991 respectively.
09:51 5 These are expert -- State of Texas
6 expert disclosures outlining the opinions of
7 witnesses provided by the State of Texas through
8 Mr. Hlavinka to me. It includes their CVs and
9 their summary statements.
09:5210 This is an article by Carolyn Drews,
11 D-r-e-w-s, from Pediatrics, April 1996, The
12 Relationship of Idiopathic Mental Retardation and
13 Maternal Smoking During Pregnancy.
14 This is an article, Lauren Wakschlag,
09:5215 W-a-k-s-c-h-l-a-g, July 1997, Archives of General
16 Psychiatry, Maternal Smoking During Pregnancy and
17 the Risk of Conduct Disorder in Boys, which only
18 obviously came out this month. I asked him to get
19 the copy for me since I didn't have access to
09:5220 that -- easy access to that journal in El Paso.
21 Q Okay. Let me stop right here.
22 Apparently there's quite a few documents that you
23 have there in front of you, correct, Doctor?
24 About two inches?
09:5325 A Well, and another two inches.

Q Okay. I want to suspend this line of questioning at this point in time. Later we're going to get back to these --

A All right.

Q -- and I'm going to ask you some questions about each one of them --

A That's fine.

Q -- rather than running through what you have. It will hopefully make more sense to me later on when I have to try to read this.

A Okay.

Q Have you performed any literature search yourself?

A Yes.

Q Okay. Did you utilize MEDLINE to do that? How did you go about doing that?

A Usually I took key articles then I would cross-reference them. At some point I believe I did put in neuropsychiatric or neuropsychological and tobacco, or childhood adolescence and tobacco. But that wasn't a very satisfying search. I don't have a copy of that. Mostly I focused on a selected number of recent articles then cross-referenced them back to if there was anything of interest.

09:54 1 Q Okay. The large brown stack of
2 documents to your left there have, at the top of
3 it, Mr. Hlavinka's name?
4 A (Witness nods.)
09:54 5 Q And does that indicate that those
6 articles came from Mr. Hlavinka?
7 A No. It's a mixture. I would have to
8 go through each one. It's a mixture of ones I
9 furnished him, some he furnished me. Some I asked
09:5410 him if he could get them because he had more
11 resources for getting literature together than me,
12 given my practice and all.
13 Q If I recall correctly, in your
14 disclosure it indicated you had testified in one
09:5415 trial in the last three or four years?
16 A In the last five years, the only time
17 I've testified in trial is one case, I believe.
18 Q Okay. What type of case is that?
19 A It had to do with brain injury from
09:5520 alleged hypoglycemia in a child.
21 Q Were you testifying for the child or
22 the healthcare providers?
23 A For the healthcare providers.
24 Q Have you given any depositions in the
09:5525 last few years?

A I have.

Q What kind of cases have you been deposed in?

A In the last -- how many years did you say?

Q Say the last four years.

A Well, the Ponder case where Mr. Hlavinka was the attorney was before that time. I gave one deposition in the Soldner case, S-o-l-d-n-e-r, where I was the treating physician back in 1980 here in Dallas. It had to do with the potential relationship of Reye's and aspirin. Again, I was the treating physician and I was deposed. Inevitably they discussed about my opinions regarding aspirin and Reye's syndrome. That was a couple years ago.

Q Okay. I'm sorry. I did not mean to interrupt you.

A I've given a deposition as a treating physician on another child who was alleged to have some injury from some perinatal problem. I don't recall that child's name. It was about a year ago here in -- in El Paso. And offhand, I don't remember that I've given any other depositions.

Q Any of those depositions for the

09:56 1 plaintiff or for the patient that you've talked
2 about?
3 A The last two.
4 Q That last two? Okay.
09:56 5 The Ponder case where you were working
6 with Mr. Hlavinka, were you testifying on behalf
7 of the patient or the healthcare providers?
8 A Well, again, I was the child's
9 neurologist, so I was a treating physician. But I
09:5710 supported the position of Mr. Hlavinka that
11 Mr. Hlavinka was representing.
12 Q Which side was he representing?
13 A It would be the defense, I guess.
14 Q The healthcare providers?
09:5715 A Yes.
16 Q Okay. Are you being paid for your
17 time by the --
18 A Yes.
19 Q -- tobacco companies?
09:5720 A I'm being paid through -- I submit
21 reports to Shook, Hardy & Bacon and they pay me.
22 Q But it's your understanding that the
23 tobacco companies are the ones paying you for your
24 time, correct?
09:5725 A Well, I assume that someone is paying

09:57 1 Shook, Hardy & Bacon, and it would be the tobacco
2 companies, yes.
3 Q How much are you being paid, Doctor?
4 A For review of records, $350 an hour;
09:57 5 and for the deposition, $500 an hour.
6 Q How about your rate for trial
7 testimony?
8 A I haven't considered it.
9 Q What have you generally charged for
09:5810 trial testimony?
11 A Well, I haven't charged anything the
12 last several years because there haven't been any
13 trials. But I assume I would charge $500 an hour
14 for actual time on the stand.
09:5815 Q How many hours do you have in this
16 case as we sit here right now?
17 A I've submitted bills -- let's see. I
18 don't have the hours calculated for these bills.
19 Where are those? To answer your question, it's
09:5920 probably around 50 to 60 hours total in the case.
21 I thought I had those handy here. We can come
22 back to those later. Maybe they're here. Here
23 they are. These are two bills I've already
24 submitted and been paid for, one March '97, the
09:5925 other June '97.

09:59 1 Q Can I see them, please, Doctor? Thank
2 you.
3 Doctor, is this a copy I can keep? I
4 would like to get a copy of this attached as an
09:59 5 exhibit to the deposition.
6 A Those are copies I made for the
7 trial. I have the originals back there. I don't
8 think you -- you have copies of them, but I don't
9 think Victor does. I don't care if you keep them.
09:5910 Q I would like to get these marked and
11 attached as an exhibit here if we could.
12 (Deposition Exhibit 11
was marked.)
13
14 Q (By Mr. Giblin) Doctor, I show you
10:0015 what's been marked as Woody Exhibit 11. Again,
16 I'll just ask you, Is this a true and correct copy
17 of your -- I guess your most recent billing
18 statements to the Shook --
19 A Yes.
10:0020 Q -- Hardy law firm for your time in
21 this case?
22 A It is.
23 Q Doctor, have you written any articles
24 that deal with tobacco-related health issues?
10:0025 A No.

Q Have you written any articles or done any research and produced I guess a paper, a study, with regard to the area of any neurodevelopment problems or cognitive problems in children whose mothers smoked while they were pregnant?

A Not specifically. There's one article on a case report of a brain malformation following carbon monoxide intoxication, which we have a copy of that here.

Q Tell me about that article. How would that article be relevant to the issues we're talking about, which is maternal smoking and problems with a baby?

A The mother was intoxicated on several occasions early in gestation from a poorly ventilated factory and had carbon monoxide poisoning and gave birth to a child with a brain malformation. Since carbon monoxide is a -- common to both that intoxication and to cigarette smoke, that would be the relationship.

Q The baby's in utero and the mother is exposed by way of smoking or externally to carbon monoxide. The carbon monoxide tends to decrease the hemoglobin of the baby, decrease the ability

of hemoglobin to transport oxygen; is that a fair generalization of what it does?

A Yes.

Q Okay. Were the results of your paper -- well, let me back up here.

So the results of your study or the paper that you wrote, how do you carry that over to maternal smoking? What are the similarities between --

A I don't think there's any definite similarity at all, because maternal smoking results in exposure of the fetus to carbon monoxide plus other things. In this case, the mother was intoxicated and clinically intoxicated, as were about 14 other employees, and there was several episodic severe elevations of carbon monoxide to which the fetus was exposed. So one is an exposure and one is an intoxication.

You could stretch it and relate it more than that, but I think my assumption is that what's in common is a fetus and a mother and carbon monoxide, plus other intoxicants from the gasoline breakdown, versus a mother, a fetus, carbon monoxide, plus perhaps 2,000 other chemicals from cigarette smoke.

Q Okay. It would also be more of a dose-response question here. You have a much higher dose when you have carbon monoxide intoxication versus the situation that you have with a fetus, which is more of a chronic, if you will, carbon monoxide exposure throughout the pregnancy if the mother smokes throughout the pregnancy, correct?

A It could be a chronic exposure to elevated levels of carboxyhemoglobin to the fetus, that's right, as opposed to an episodic intoxication in the case I reported.

Q Okay. And would you agree, Doctor, the studies have shown that mothers who smoke throughout the pregnancy create an environment for the fetus that involves chronic hypoxia?

A I haven't reviewed any of that literature and I have no expertise in that.

Q Would you agree that that sounds reasonable, though?

A Doesn't matter if I agree it sounds reasonable. I don't have any expertise in that.

Q Okay. Any other articles that may somehow bump or overlap maternal smoking that you've written?

A No. No, I haven't.

Q Would it be fair to say, Doctor, that you do not consider yourself an expert in the area of diseases of the fetus or newborn caused by maternal smoking?

A That would be fair to say.

Q I take it, and I see that obviously you have reviewed the literature that deals with -- that has discussed the effect of the fetus and the effects on the newborn of maternal smoking, correct? You're familiar with the literature? You've reviewed it?

A I've reviewed the literature that has to do with potential adverse neuropsychological or psychiatric or behavioral outcomes in the fetus where the mother has smoked.

Q That's the only literature?

A Well, I've looked at other literature, for instance, on the demographics of Texas, the demographics of minority groups in the Medicaid population in Texas. As far as the scientific issues go, I have not delved deeply into some other aspects of the potential relationship because I thought other expert witnesses would be covering that and they had more experience and

their practice was more applicable to those topics. I'm a pediatric neurologist and I try to stick to pediatric neurology outcomes in a broad sense, including psychiatric and behavioral outcomes.

Q But you are familiar, just in general, of what the various issues have been, even in the studies that deal with neurodevelopmental problems? That is, a low birth weight, the small for gestational age, the things of that nature, correct? You are --

A I'm familiar with the controversies, that's right.

Q Okay. Doctor, what has previously been marked as Woody Exhibit 1, I believe, was your summary report prepared in this case.

A Yes.

Q Is that a report that you yourself prepared?

A I didn't type it. The report was prepared in this sequence: We had three meetings with the attorneys in which we discussed issues in depth. One of the attorneys presented me with this report and we reviewed it word-by-word and I edited changes and accepted it as representative

of my opinions.

Q Okay. Which of the attorneys prepared the report for you?

A Ms. Lindgren-Bron.

Q Okay. How many drafts were there, Doctor?

A How many drafts of --

Q How many drafts did it take y'all to get to the final finished product here?

A She presented me with one draft and we discussed it over about three hours, and then she furnished me the second draft.

Q Did you keep a copy of the first draft that was furnished to you?

A No. I wasn't given a copy. It was over dinner. We discussed it.

Q What was the problems that you had with the first draft that required the second draft?

A They were grammatical.

Q Such as?

A Commas, redundant phrases. I don't believe -- maybe one sentence was struck, but I don't remember what that sentence was. There was nothing substantive that changed from the first

draft to the second draft.

Q Have you discussed your summary report, Doctor, with any other physicians?

A No.

Q Have you reviewed any of the depositions that have been taken, say, in the Mississippi tobacco case or the Florida tobacco case?

A No.

Q Have you requested any of the depositions that have been taken in those two cases?

A No.

Q Have you discussed your opinions with any other pediatric neurologists?

A The only other person I talked with was a friend of mine who's a fellow here in Dallas at Children's Medical Center in pediatric neurology. And I told him I was -- that was the reason I was coming to town.

Q And who is that gentleman?

A His name was Dr. Talal Al Rifai; T-a-l-a-l; Al, A-l; Rifai, R-i-f-a-i.

Q Okay. Did you keep any notes or make any notes, Doctor, pertaining to the meetings that

you had with the attorneys? You had three meetings with attorneys and -- to discuss your report, correct?

A (Witness nods.)

Q Did you make -- is that a yes?

A Yes. We had three meetings to discuss the report.

Q Did you make any notes --

A No.

Q -- personal notes with regard to what was discussed at the meeting?

A No. I have no notes. I made no notes.

Q Were there any recordings made?

A Not to my knowledge.

Q Would you agree, Doctor, that many commentators, many researchers, have stated that the relationship between maternal smoking and low birth weight is so related that it's a causal relationship? Are you aware that many commentators and researchers have made that statement?

A I'm aware that it's received a lot of discussion and people have strong feelings on it. I'm not sure that I would agree that it is a

causal relationship. The literature has strong opinions that smoking may be one of the -- that low birth weight may be one of the outcomes of the fetus who's exposed to maternal smoking.

Q But at this point in time, you personally are unable to say that there's a causal relationship between maternal smoking and low birth weight?

A I think it would be better for other expert witnesses who -- for instance, neonatologists or perinatologists, who deal with that specific top, to answer that. I think that there is a relationship between low birth weight and maternal smoking. Whether it is quote, causal, unquote, and all the implications of that, becomes, in this context, a legal issue. Again, I think people with other expertise would be more qualified to answer that than me.

Q What is your understanding as to the legal issue that comes up with the causal question?

A Well, whenever there's a cause and effect and adverse outcome, there's a legal issue these days. Whatever the implications of low birth weight would be would then be the corollary

of that.

Q Do you maintain a file, Doctor, just for articles dealing with maternal smoking and health issues?

A Only in regard to this case.

Q With regard to this case -- I take it this case is the first time that you ever generated a report that spoke to the issues involved with maternal smoking and birth problems, problems with the fetus or problems with the baby; is that correct?

A That's correct.

Q So when you were contacted by Mr. Hlavinka, prior to that you had never had any interest in investigating or getting involved in the issue of maternal smoking and neurodevelopmental disorders; is that a fair statement?

A No, not at all. Currently I see about a hundred new patients a month. Over my career I've seen 20,000 to 50,000 new patients. Every patient I've asked about maternal smoking, without fail, among other things, including hospitalizations, illnesses, allergies, trauma, transfusions, smoking, alcohol, street drugs,

maternal work exposure, thyroid disease, hypertension, diabetes. So it is a routine question that I've asked between 20- and 50,000 times over the last 20 years. And with that, I have -- as a clinical pediatric neurologist, I would say I have expensive experience in that topic.

Q Not to belabor this point, but the obvious question is, Why have you asked them about smoking?

A Because of -- that is one exposure during pregnancy which may be of consequence.

Q Do you agree it's pretty well known in most circles to be of consequence, the problems for the fetus?

A Which problems? The low birth weight?

Q The low birth weight for one.

A It's widely known that it's not recommended that mothers smoke during pregnancy. It's widely taught and it's widely accepted, and I accept that, just as she shouldn't drink. If she has thyroid disease, it should be treated. So it is a standard precept, and it is certainly a standard thing that every pediatric neurologist

would ask is did you smoke and how much did you smoke?

Q Doctor, do you consider yourself an expert in the area of epidemiology?

A I have -- as you know from the CV, I have a master's in public health from Johns Hopkins, and during that I had reasonably extensive training in epidemiology. I don't consider myself an epidemiologist or an expert in epidemiology. I certainly know much, much more about epidemiology than before I started, and more about epidemiology than the standard currently trained neurologist or pediatric neurologist. But I would not say I'm an expert in epidemiology.

Q Again, you would not be in a position to be giving expert testimony concerning epidemiology issues, correct?

A I think I could give expert testimony in regard to selective aspects of pediatric neurology/epidemiology areas in which I'm focused and I have confidence that I have I understanding. If I go beyond the degree of where my confidence is, I will tell you.

Q Okay. So I'll understand, Doctor, here, with regard to trial, as far as

epidemiology, the only area that you may testify or offer expert testimony as an epidemiologist, if you will, is in the area of pediatric neurology and neurodevelopmental disorders related to maternal smoking; is that correct?

A I am not going to offer any expert testimony as an epidemiologist. I am going to offer -- I feel like I can and I will offer testimony, if I'm asked to testify, regarding certain aspects of biostatistics and epidemiology. But that does not mean that I'm claiming I'm an expert witness in biostatistics and epidemiology, only in that aspect that relates to issues that have been raised that I have researched and I have confidence in.

Q Which aspects are those that you have researched that you have confidence in?

A The -- for instance, the literature that we've discussed here and the -- in the context of the background and training which I received -- the statistical analysis in many of these articles, but not all of the articles, I have confidence that I understand and can furnish opinions on. Other articles here I don't have understanding and I would go on an individual case

explaining that I would recommend you defer those to people that have formal training in epidemiology or biostatistics.

Q Okay. Again, as far as the aspects that you may offer epidemiology-type testimony on, again, those are focused around pediatric neurology issues; is that correct?

A Yes.

Q Okay. At this point in time, you do not plan on going outside of that area and offering expert testimony on epidemiology issues other than in the pediatric neurology area?

A Well, epidemiology and statistics are tools. So -- just like there's epidemiology and biostatistics of every disease, of every aspect of social interactions. So these are tools. They're like a DOS or an Apple. These are tools that you use. There's all different levels of understanding of epidemiology and statistics, just like there is of using tools. So they're not -- they're not fields in and of themselves. I see them as tools. I do not claim to be a statistician of epidemiologist. I'm a clinical pediatric neurologist who has had training in epidemiology and biostatistics --

Q Okay.

A -- as tools for me understanding the literature and understanding human disease and health.

Q Okay. But do you see my problem here?

A I see your problem.

Q What I have to try to find out, Doctor, is what you may testify to at the time of trial when we put this on in front of a judge and jury. I would like to be able to know that your opinions, your expert testimony, if you will, is going to be in this arena and not jumping over into this arena.

A I understand.

Q Okay. So that's why I'm asking. Can we assume that at the time of trial that your opinions that utilize epidemiology studies and your knowledge of epidemiology, those opinions will be confined to the area of, again, your specialty, pediatric neurology and neurodevelopmental problems with children, that sort of thing?

A Yes. You can assume that. You may want to expand your question, if I can help you.

10:21 1 And which areas are you specifically concerned
2 that I exclude? I mean, if you're -- if you're
3 implying that you're asking me am I going to get
4 into lung cancer, into heart disease, into et
10:22 5 cetera, those things, I can tell you I will not
6 get into the epidemiologic aspects of those or the
7 biostatistical analysis of any of those. So I am
8 not an epidemiologist. My interest in
9 epidemiology and biostatistics is as tools in
10:2210 pediatric neurology and developmental issues in
11 general, and particularly in regard to this
12 deposition.
13 Q Pediatric neurology,
14 neurodevelopmental problems in general, and then
10:2215 this deposition, okay. My question is, This
16 deposition, this issue we're talking about today,
17 what other aspects does that throw up that you may
18 testify about at the time of trial?
19 A Well, I don't know if there's going to
10:2220 be a trial. I don't know when there's going to be
21 a trial. And I don't know what events might
22 transpire between now and then. If we had a trial
23 tomorrow, my testimony in regard to development,
24 pediatrics, psychiatric issues, behavioral issues,
10:2325 epidemiology, biostatistics, would be limited to

the information that's stacked in front of me right here. It would also, of course, have to include some aspects of my prior training in medicine and with the master's in public health and my clinical practice. So there's a few things that are not on this table that I might include, but those are general training and experience issues.

Q You -- also in your disclosure, Doctor, there was a copy of an epidemiology textbook that was supplied. I forgot the name of that.

A Mausner, M-a-u-s-n-e-r.

Q Mausner. Okay. I take it that you regard that textbook as being authoritative in the area of epidemiology?

A It's a standard accepted introductory epidemiology textbook.

Q Do you regard it as authoritative?

A I don't know what the word "authoritative" means. It's a widely accepted textbook that would be a good introductory course and, in fact, was used as one of the texts at Johns Hopkins for the epidemiology course.

Q Do you consider that text a reliable

source of information?

A Yes.

Q Would you recommend to others if they had a question dealing with epidemiology that they consult this textbook to see if they can find an answer?

A Yes.

Q Do you still, on a regular basis, have occasion to consult this textbook to try to answer questions that you may have concerning epidemiology?

A Yes.

Q You touched on this earlier, but do you regard yourself as an expert in the area of biostatistics?

A No.

Q Do you -- is there any particular biostatistical textbook or treatise that you consider particularly reliable and valid in looking at the issue of biostatistics?

A There's none that I've referred to, and I don't recall the name of the series of texts which we used in 1991 and '92, but there's none that I would rely -- am relying on and none that I would go to on a regular basis. There might be

some questions that come up, but they would be quite straightforward, quite mechanical questions that I would go to refer to in those texts.

Q Okay.

A Nothing that I would construe as controversial at all.

Q Do you consider yourself an expert in the area of toxicology?

A The master's in public health was in the division of toxicology and environmental health. Once again, I would not consider myself an expert in toxicology and environmental health, although that is an interest that I've had throughout my academic career. I think, in all fairness, if the court wanted experts in toxicology and environmental health, they should get people actively involved in the field currently, which I'm not.

Q When was the last time you were involved in that field? The field of toxicology. A number of years?

A Well, I was involved with several governmental agencies as consultants and on panels as late as 1988. And then I received the MPH in the division of toxicology environmental health

from '91 to '92. Of course there was a lot of exposure during the master's program.

After May of '92, I've had no substantial involvement in those fields.

Q Okay. Obviously you do consider yourself an expert in the area of pediatric neurology, correct?

A Correct.

Q Okay. With regard to that, is there any textbook or article -- excuse me -- textbook or treatise that you feel is particularly reliable and valid in that particular area?

A Well, there are several well-accepted standard texts of pediatric neurology. The authors are Swaiman and Wright, S-w-a-i-m-a-n, Wright, W-r-i-g-h-t; neonatal neurology textbook by Volpe, V-o-l-p-e. There's a fairly standard textbook by Fenichel, F-e-n-i-c-h-e-l, general textbook of pediatric neurology; and others that I really don't own or would have referred to only on occasion.

Q Are you familiar with the -- is it Avery Gordon or Gordon Avery, textbook on neonatology?

A I'm familiar with the title and the

author. Actually, I don't refer to that book.

Q Okay.

A That's a neonatal book that neonatologists would use on a routine basis just like, for instance, I use Swaiman and Wright on a routine basis.

Q For your neonatology neurology questions?

A For neonatal neurology questions, I would refer to Volpe.

Q Okay.

A Textbook of Neonatal Neurology.

Q Again, you do not consider yourself an expert in neonatology, correct?

A I'm not.

Q Obviously the same question for obstetrics and gynecology.

A I'm not.

Q You're nothing an expert in that area.

Do you know any of the other experts for the tobacco companies here in the State of Texas? Dr. Robert Arrington?

A Yes, I know Dr. Arrington well.

Q How long have you known Dr. Arrington?

A Since 1983.

Q Have you talked with Dr. Arrington with regard to his involvement in the tobacco case?

A No.

Q Have you had any conversations with Dr. Arrington concerning this tobacco case?

A None.

Q Do you know how Dr. Robert Arrington came to be an expert witness for the tobacco companies?

A Well again, I assume that he's been retained by Mr. Hlavinka to testify on neonatal issues regarding maternal smoking and neonatal outcome.

Q I apologize, I may have already asked you this, but did you give Mr. Hlavinka the name of Dr. Robert Arrington --

A No.

Q -- for him to contact him?

A I did not.

Q How about Robert Carpenter? Dr. Robert Carpenter?

A I don't know him.

Q Used to be at Baylor, now he's in

private practice in Houston. You don't know him?

A I may have heard his name. I've never discussed -- I've never talked to him and I've never met him, to the best of my knowledge.

10:30 Q Okay. Dr. Percy Lueke?

A I don't know who he is.

Q Dr. Jack McCovin?

A I've heard the name. Is he an obstetrician in Texarkana? I've heard the name. I've never met him or talked to him or had any professional or social interaction with him.

THE WITNESS: Can I take a break for a few minutes?

MR. GIBLIN: Yes, sir.

10:31 THE VIDEOGRAPHER: We're off the video record.

(A recess was taken.)

THE VIDEOGRAPHER: We're on the video record.

10:38 Q (By Mr. Giblin) Doctor, I would like to at this time briefly touch on your opinions concerning smoking and diseases, general diseases. First -- we talked about this briefly earlier. What is your definition of the

10:38 phrase "risk factor"? What does that mean to you

when you use the phrase it's a risk factor for something?

A A risk factor would be some parameter which might increase or decrease the chance of some outcome.

Q How about the word "causal," the phrase "causal connection"?

A Causal would refer to two events, or more events, where one precedes the other and leads to the development of the second. Multiple things could be causal. Causal doesn't mean that it always leads to the outcome, but the second outcome is -- the outcome is preceded, to some extent, by the antecedent event.

Q Okay. Say, for instance, a risk factor, a risk factor can become a causal -- can have a causal relationship with a given disease; is that correct?

A A risk factor could be causal or could be contributory where -- for instance, a risk factor in and of itself is not sufficient, but if coupled with other factors might become causal.

Q Okay. What type of -- from your standpoint, your training, what type of evidence has to be present before you can say that

something is causal, that this was a risk factor but now we can say it is causal because we see what? What does it take for you to make that connection?

A Well, there needs to be a chain of evidence based on plausibility. There needs to be reproducibility, hopefully to the point where there is clear-cut evidence clinically, or if need be statistically, in confusing cases. For instance, the example of streptococcus leading to acute glomerulonephritis or rheumatic heart disease. It's quite clear that the streptococcus bacteria is causative of those diseases as we see them today. There's the agent, the basic science linking them, the pathology, the treatment, the natural history.

There's many situations where some of those components are missing and we make assumptions of causality so we have something to work with. But in most diseases, these are assumptions -- or consensuses, perhaps -- and there are frequently changes in those assumptions and evolutions of consensus.

Q Do you agree that many times there is more than one cause of a given disease?

A Yes.

Q But from your standpoint, to satisfy this causal deal, you understand and you appreciate that for something to be causally related, if it's shown that it is a cause, not the only cause, but it is a cause, that that is enough to satisfy you on the causality question?

A Well, it's circular reasoning. By definition if it's a cause, there's causality. I don't think that's a productive question.

Q Okay.

A Do you want to reask it?

Q I don't know if I can. I guess my point being that you understand and you appreciate, based on your training, that there's -- for the causality argument, as you were talking earlier, that you get to the causality argument and that's when the lawyer get involved and that's the legal liability stuff, correct, as you put it, basically earlier. But getting to this causality point, you can get to the causality point that gets people legally arguing, as you say, even if there's more than one cause to a given event, if you show that something is a cause, correct?

A Basically you're correct. The issue is what's the reliability of that showing? What's the validity or the reliability or reproducibility or plausibility? Just because you say it causes it doesn't mean it causes it.

Q Sure.

A If a thousand attorneys say it causes it, it doesn't mean it causes it. I'm talking about medical issues. On the other hand, if a published controlled study, reasonably well done, joins ten other articles similarly well done, then there becomes consensus of causation. But that is open to interpretation even at that point. In a scientific hypothesis, you can't prove something is true often -- in fact usually. You can prove certain things are not true, perhaps, but it's harder to prove truth.

Q Right. But again, as you pointed out, if you've got, you know, several hundred or a thousand articles that basically reach the same conclusion, it's more likely than not that you can say that this is causally related?

A You develop consensus and you develop dogmas that are taught and accepted and taught to medical students and residents and become

accepted.

Q Right. But the general proposition of what I said is a fair statement, correct?

A What is that proposition?

Q Well, you mentioned earlier that if you had a published article with good controls and joins ten other articles that are published and they basically reach the same conclusion, then basically you have the consensus here of opinion which could lead to the causal connection. My point to you was, likewise, if you have hundreds of studies or a thousand studies or several -- or a thousand studies that essentially reach the same conclusion about a given question, that it's more likely than not that you can reach the causal connection conclusion. Fair statement?

A Yes.

Q Okay. I'm just going to -- one other question. We talked about what cause means to you, risk factor. "Associated with," does that have any meaning?

A Of course.

Q What does that mean to you?

A In certain circumstances, over a percentage of time, or in a certain sequence, one

event is related in some fashion to another event.

Q We don't know how strong?

A The phrase doesn't say anything.

Q Is associated with --

A Associated -- I'm sorry. Associated can be a negative association.

Q Okay. So then I guess the question -- my question is, Is associated with a linker -- a weaker link than being a risk factor?

A Well, not necessarily. They're just words. A risk factor can be very, very, very low risk factor, it can be a negative risk factor. The same as association. In general, those phrases are used somewhat in the same context, and not necessarily one more potent than the other.

Q I see. That's what I kind of gathered, that associated with and risk factor seemed to be a lot of times used interchangeably; is that correct?

A Yes.

Q Let me ask you about several diseases here, Doctor. My question is, In your opinion, are they causally connected to smoking? Is smoking a risk factor for it or is it associated with smoking, okay? That's the same basic

question here, three questions I guess for each disease I'm going to throw out to you.

The first one is lung cancer.

A Well, I'm a pediatric neurologist. I have no expertise in lung cancer.

Q So you have no -- you can't answer the question based on your opinion?

A I'm not here to answer that question.

Q Okay. You have no opinion as to whether or not smoking is related or caused or is a risk factor for lung cancer?

A My report I submitted I think outlines the opinions I'm going to address and that's not one of them.

Q Okay. Esophageal cancer?

A Same.

Q Same answer? Pancreatic cancer?

A Same.

Q Urinary bladder cancer?

A It's the same answer.

Q Laryngeal cancer?

A Same answer.

Q Oral cavity cancer?

A Same.

Q Coronary heart disease?

A Same answer.
Q Stroke?
A Same answer.
Q Chronic obstructive pulmonary disease?
A Same answer.
Q Respiratory infection such as pneumonia and influenza?
A Same answer.
Q Peripheral artery occlusive disease?
A Same answer.
Q Gastric or duodenal ulcers?
A Same answer.
Q Is nicotine addictive?
A I'm not a nicotine expert. And the word "addictive," as you know, has become a controversial word. So that's a difficult question for me to answer.
Q Getting back -- I'm not going to beat on this, but getting back to the lung cancer question and smoking, you're not going to express any opinions on these diseases we talked about, particularly lung cancer, because that is not in the realm of pediatric neurology?
A Well, that's not in the realm of what I'm prepared to answer. I haven't treated or

read, even, anything about lung cancer since I was a medical student. If you came to me with lung cancer, I would refer you to a pulmonary expert. I can't imagine in this setting of legal confrontation that I should express any other opinion.

Q When were you in medical school, Doctor?

A 1973 to '77.

Q In 1977, weren't y'all taught in medical school that smoking causes lung cancer?

A It could be a risk factor for it, yes.

Q In 1977, it was only a risk factor, based on your recollection? It wasn't that it causes lung cancer?

A No. It was never taught it caused lung cancer. It was a risk factor for lung cancer.

Q Have you ever read that smoking causes lung cancer?

A Probably, yes.

Q Do you believe that?

A Well, again, you're asking me an opinion that I'm not going to get into today.

Q Well, are you going to get into it at

the time of trial?

A No.

Q And you don't want to tell me your opinion, correct?

A My opinion is of no value. And for the record and for your assurance, I'll take the same stance if this goes to trial and I'm on the stand. I'm -- you can trust me on that.

Q Doctor, I'm going to ask you about a couple other complications of pregnancy just like I did diseases related to smoking. My question is the same: Based on your training, what you've read, is maternal smoking causally related to this condition or is maternal condition a risk factor for this problem or is maternal smoking associated with this problem. The first one is low birth weight or small for gestational age?

A I would defer that to a neonatologist.

Q Have you ever treated babies, Doctor, that were small -- that you found that were small or had low birth weight because the momma had smoked?

A Well, I've treated low-birth-weight babies whose mothers had smoked. Whether that was the cause or the only one of many causes, it

becomes the heart of your question, I think.

Q As part of your treatment here, aren't you -- one of the things you're looking for is to try and determine what the cause is of a given problem?

A That would be nice if I could.

Q In fact, you question -- as you said, you question them -- one of the things you hit them on is smoking because you're talking about it is a risk factor, as you said, for low-birth-weight babies; is that correct?

A I question them because it is a possible risk factor for low birth weight, yes.

Q Possible risk factor or it's is a risk factor for low birth weight?

A It's a possible risk factor.

Q That's unproven as to whether or not it's a risk factor in your mind?

A You ought to address that with a neonatologist whether it meets the criteria of proven in this setting.

Q You have, in fact, though, as a pediatric neurologist, been called in to treat little babies that had a low birth weight; is that correct?

A No. No. I wouldn't be called in, which is why I'm not going to address the issue. A neonatologist or pediatrician would be called in for that baby. I wouldn't -- I never have.

Q How about abruptio placenta?

A How about abruptio placenta?

Q I'm back to the same three questions, Doctor: Causally related to maternal smoking, maternal smoking is a risk factor, or maternal smoking is associated with.

A I have no opinion on it.

Q Placental previa?

A The same answer.

Q Spontaneous abortion?

A I have no opinion on that.

Q Congenital limb reduction?

A I have no opinion.

Q Ectopic pregnancy?

A I have no opinion.

Q Preterm delivery?

A Same.

Q SIDS -- sudden infant death syndrome?

A No opinion.

Q Mental retardation?

A I have an opinion.

10:55 1 Q We'll get to that more specifically
2 but in, general what, is your opinion on mental
3 retardation?
4 A There's no relationship between
10:55 5 maternal smoking and mental retardation.
6 Q Neurological disorders?
7 A Well, that's a broad
8 characterization. Do you want to break it down
9 into specific -- are you saying just any
10:5610 conceivable neurologic disorder?
11 Q I'll try. I don't know how successful
12 I will be. Behavioral problems.
13 A I find no convincing evidence in my
14 experience or in the literature of behavioral
10:5615 problems having any relationship to maternal
16 smoking.
17 Q Now you've used a phrase here that I
18 don't think I've heard you say earlier, "no
19 convincing evidence." Is that something -- is
10:5620 that something that considers an association but
21 the association isn't strong enough or --
22 A Well, it's a new field. As I said
23 earlier, there's a new article just coming out
24 this month in Archives of General Psychiatry
10:5625 that's provocative and interesting. I assume that

10:56 1 you have that. If you don't, I will give you a
2 copy of it.
3 Q Okay.
4 A As I say, it's provocative. In every
10:57 5 fashion, it's interesting to me, totally apart
6 from this litigation. But that doesn't mean that
7 it is, quote, fact, unquote, or truth, unquote, or
8 an even -- even the author says the data is,
9 quote, suggestive, unquote. And so while I'm very
10:5710 interested in it and I'm very interested in what
11 the outcome of this article will be, I think it's
12 literally too hot off the presses to draw any
13 conclusions about the article.
14 Q Cognitive deficits.
10:5715 A That would be already included in my
16 answer on mental retardation.
17 Q And that is there is no relationship?
18 A That's correct.
19 Q No relationship between maternal
10:5820 smoking and cognitive deficits being developed in
21 the children, correct?
22 A That's correct.
23 Q I was asking you earlier about being
24 called to treat a little baby and indicated you
10:5825 wouldn't do that. What kind of practice do you

have, Doctor?

A Pediatric neurologist.

Q Office practice? Are you in a hospital --

A Both. About 95 percent of what I do is outpatient.

Q And you wouldn't be called in to see the patient, I take it, until there was a consult done requesting you to come in or someone else has to call for you to get involved with the care of a patient?

A In most cases. I have a very, very, very few patients I admit on a monthly basis, perhaps one a month or less. Of course I would be involved in any patient on those without being called.

Q What type of -- can you give us just an idea of the type of patients that --

A Sure.

Q -- you see and treat, say, on a regular basis? First off, the age, if you can give us an age.

A About 90 percent of my patients are 18 and under. About 10 percent of my patients are adults.

10:59 1 Q Okay. What type of problems do you
2 treat on a regular basis, daily basis, if you
3 will?
4 A 41 percent of my patients have
10:59 5 epilepsy; about 22 percent have migraine; and the
6 rest have miscellaneous including developmental
7 delay, although the epileptic patients often have
8 developmental delay, retardation, cerebral palsy
9 in addition to epilepsy. They're coded "epilepsy"
10:5910 and they fall out under that primary
11 classification. I would say in the context of the
12 discussion today, probably 20 percent of my
13 patients have some form of mental retardation, and
14 30 to 50 percent of my patients have some
11:0015 psychiatric or behavioral problem.
16 Q Okay. I want to take a quick look if
17 we could, Doctor, at the articles that were
18 provided to us as being articles that you've
19 relied upon in formulating your opinions. They've
11:0020 already been marked. I'm going to pull your
21 report off the top, set that here at this point.
22 I guess I'll take them in the order that you have
23 them. What is the first one that you have there
24 in front of you, Doctor, if you could tell me.
11:0125 A Article by Peter Baghurst,

B-a-g-h-u-r-s-t, "Effects of maternal smoking upon neuropsychological development in early childhood: importance of taking account of social and environmental factors," from Pediatric and Perinatal Epidemiology, 1992.

Q Okay. That's marked as Woody Exhibit Number --

A 10.

Q Okay. What is it about this article that you've relied upon or utilized in fortifying your opinions?

A This was an article of a cohort of patients from Australia followed between birth and four years of age in which there was maternal smoking with the developmental aspects that followed. They found the differences of developmental scores insignificant statistically. After adjustment for socioeconomic status, quality of home life, maternal intelligence, suggesting that those social and environmental factors were major confounders of the association of smoking, maternal smoking, and developmental outcome in the children.

Q Okay. However the results of it were, though, that there was a slight -- there was a

slight decrease among the children whose mothers smoked versus the nonsmokers, though, correct?

A But it was of no significance because of the confounders.

Q Okay. Looking at this -- I take it this is -- well, looking at this under the introduction, Doctor, it states, "Although it is generally accepted that exposure to carbon" -- I mean "exposure to tobacco products from the mother's smoking during pregnancy is associated with both a reduction in birthweight and an increase in perinatal mortality, uncertainties exist about the functional consequences of maternal smoking on offspring." I take it you agree with that statement?

A Not necessarily. It's Dr. Baghurst's statement.

Q What about it about that that you don't agree?

A It's not an issue of agreeing or not. That's his opinion.

Q Do you agree that mother's smoking -- that "it is generally accepted that exposure to tobacco products from the mother's smoking during pregnancy is associated with both a reduction in

birthweight and increase in perinatal mortality"?

A A neonatologist would be more appropriate to answer that in this context.

Q Okay. Looking at the second page, there's something there, "hyperkinetic-impulsive behaviour (HI)." Can you see that? One, two -- in the third paragraph about in the middle, Doctor.

A I see it, yes.

Q Okay. What is that?

A That's not a phrase we use in this country. The words would imply a child who's fidgety and, quote, hyper, unquote, and has impulsive behavior.

Q What would we call that in this country?

A I don't know. We don't use the phrase hyperactive impulsive behavior, or HI. You won't find that in any American reference.

Q Is this a conduct disorder of some type?

A No.

Q It's not?

A It could be ADHD or ADHDI, but -- and I would assume that, but I would be hesitant,

because he doesn't define what he means by that.

Q Okay.

A It does not refer to conduct disorder, though.

Q What are conduct disorders? Give us some examples of those.

A Well, conduct disorder is one of hundreds of -- the definition of conduct disorder is one of hundreds that are provided by DSM-III, DSM-III-R or DSM-IV as -- under the adult age in which there is pervasive patterns of sociopathic behavior: lying, stealing, fire starting, oppositional, destructive, violent, aggressive behavior in a pervasive pattern.

Q In this study here it appears there's a higher incidence of this hyperkinetic-impulsive behavior problem with the children --

A In which study?

Q I'm talking about the Baghurst study.

A No. Baghurst doesn't address that.

Q Okay.

A This is in reference -- the issue to that is in reference to the perinatal collaborative study.

Q Again, with regard to that study,

though, I guess the best I could say for that it was maybe yes or maybe no?

A It provided equivocal evidence of the association of cognitive defect in children with exposure to maternal smoking, although I haven't looked at that data at all. That's Baghurst's comment on this data.

Q By equivocal, does that mean maybe yes, maybe no?

A Equivocal means arguable.

MR. GIBLIN: Let me get this marked if I could, please.

(Deposition Exhibit 12 was marked.)

Q (By Mr. Giblin) Doctor, I show you what's been marked as Woody Exhibit Number 12 and ask you, Have you seen that document before, that abstract?

A Well, this is a typed rendition of the abstract, I assume. I've got the actual abstract here. I have read the article as much as I could read, although some of the table -- it was very hard to read given the short notice that it only came out last week and the intricacies of faxing. This refers to the Wakschlag article that I talked

about earlier. I assume it's an accurate rendition of the abstract.

Q Okay. What's significant about this Wakschlag study that was done?

A Let me refer, instead of this, to the actual article.

Q Okay.

A Would that be all right?

Q That would be fine.

A I can give you a copy of it here too if I would like to look at it.

Q Thank you.

A The Wakschlag article is this very provocative article from Archives of General Psychiatry from the University of Chicago in which boys with conduct disorder were studied with controls. The case group had correlates of maternal smoking, and then they looked at the outcome as to whether maternal smoking might be a risk factor for the development of conduct disorder.

Q Okay. In looking at the conclusion here, Doctor, its states, "Maternal smoking during pregnancy appears to be a robust independent risk factor for conduct disorder in male offspring.

Maternal smoking during pregnancy may have direct adverse effects on the developing fetus or be a marker for a heretofore" -- I can't read --

A "Unmeasured."

Q -- "unmeasured characteristic of mothers that is of etiologic significance for conduct disorder." You mentioned that this was a quite intriguing -- earlier quite intriguing finding; is that correct?

A Yes.

Q From the standpoint of a connection or association being made between maternal smoking and conduct problem with children?

A From the standpoint of conduct disorders are almost exclusively in boys -- not exclusively, but largely exclusively. They're very, very difficult to manage. There is no psychopharmacology of treatment. There is hardly any effective psychotherapeutic therapy for these boys. They do have a high association with sociopathy later in life and, therefore, if smoking was a risk factor, it might be a preventable cause of conduct disorder. So that's why it's a provocative -- I think I used the term "provocative study" rather than intriguing,

11:10 1 although it is intriguing, in fact.
2 Q Uh-huh. Provocative and intriguing.
3 Based on the review you have been able
4 to do so far, do you have any problems with the
11:10 5 methodology that was used, the study methodology?
6 A I have no other problems with the
7 methodology other than the problems that
8 Dr. Wakschlag details at length in her own article
9 on the problems of methodology.
11:1010 Q Okay.
11 A But I have to say that I've had less
12 than 48 hours to 72 hours to study this. I've had
13 no ability, since it just literally came out in
14 print, to cross-reference the references. So it
11:1115 might be that we need to meet at a later time if
16 any -- if I have any other new opinions on this
17 article.
18 Q Okay. Because obviously this is --
19 this article, this abstract here, this is the
11:1120 latest word on this subject that we're here
21 talking about today, basically, that is whether or
22 not maternal smoking has any adverse cognitive
23 neurodevelopmental or behavioral associations with
24 the babies?
11:1125 A Well, it's the latest publication. I

wouldn't refer to it as the latest word if the implication is that's the most authoritative or the final word. If you use it in that context, I don't agree. It's almost certainly the latest publication in this very difficult field.

Q Might this publication, Doctor, have some effect on the opinions that you're going to be expressing in this case on behalf of the tobacco companies?

A Well, it will have an effect on my opinions.

Q In what way?

A Well, the -- it's one more piece of data. It's one more piece of data that I include and find interesting from the standpoint of this litigation, also from the standpoint of the activities I do on a daily basis. So if it -- I will be interested in the feedback which is received in the medical literature on this topic and the reproducibility of it later over the next years. But I think it is an interesting article.

Q You mentioned it will have an impact on your opinions. I guess my question is, Based on this article, it can now be said that apparently -- at least based on this study,

apparently maternal smoking is a robust independent risk factor for behavior problems in male offspring. Fair statement?

A Well, that's what the author said. But as you read, he said maternal smoking may have an adverse effect on the developing fetus or -- and we'll go through this I'm sure -- or be a marker of a hereto unmeasured characteristic of mothers that is of etiologic significance of conduct disorder. That, in fact, is the heart of the deposition today, the issue of confounders. The issue that we're not dealing with lab rats who we get to smoke then get them pregnant then measure the outcome. We're dealing with many, many variables, some known, many, many unknown, that confound the issue.

Q That's the way it will always be, right, Doctor?

A It will always be.

Q That's why a statistical analysis was never able to prove anything?

A Statistical analysis is not meant to prove things. It's meant to be a tool for analyzing things. Lawyers want proof of things. In fact, we deal in a world where we don't really

live with proofs. We live with assumptions.

Q I would like to attach a copy of that article, Doctor, if I could, to the deposition. I --

A We may want to make a copy of that. That's a fax. This is a Xerox of a fax. I don't know what you want. But we need an original copy as soon as --

Q Okay.

MR. HLAVINKA: I think I can get an original copy this week, and I will be pleased to send you a copy.

A It's in print now. Just that the short notice threw us off.

Q (By Mr. Giblin) Anything else about this maternal -- this Baghurst article we were talking about that you feel is significant or worthy of --

A Well, the Baghurst article, very carefully through testing, shows that the home environment and maternal issues and socioeconomic status make any findings they have a wash. They become of no statistical significance at all, even though on the surface when they do measurements there are differences in the two groups. When you

stratify them, when you look at them according to the maternal IQ, the level of parenting skills, the socioeconomic status, and the other measures, the difference evaporates. The difference, to begin with, was quite small.

Q Well, I mean, Doctor, do you regard dose-response as something important to be looked at when you're dealing with smoking pregnant ladies?

A I would regard dose-response as something to be reported and studied in any kind of exposure -- any exposure. The dose of the exposure may determine the severity of the adverse outcome and, if so, there hopefully would be some kind of linear relationship between exposure level intensity and severity of outcome.

Q But, of course, you'd have to control for dose-response, is that correct, before you would know whether or not -- the point I'm getting at is this, Doctor: If you would in that article turn to page 405 at the bottom. One, two, three -- fourth line from the bottom, they're talking about how they classify these ladies. And it says, "The women were defined as non-smokers if they had never smoked or had smoked no more than

five cigarettes (total) during" the "pregnancy." Okay? And if they quit smoking, then their status would have changed. You had to be a non -- let me back up. To be a smoker, to get thrown into the smoker category, if a woman said she smoked six cigarettes throughout her pregnancy, or seven, or eight, or nine, or ten throughout this nine-month period, they're a smoker. And wouldn't you agree with me, Doctor, that really -- that really doesn't consider dose-response here? That's nothing a very good control at all?

A This is an article -- this is a point that runs through all the articles is how do you define the exposed group. And it's a key question in all case control or even prospective studies, is what's the definition of the exposed group.

Q Right.

A Do I think that smoking one cigarette during a pregnancy conceivably could cause problems? I don't think anyone would think that. On the other hand, do I think that one cigarette smoked during the pregnancy should put the patient in the exposed group? No, I don't agree with that. At some point they had to draw the line. This is how these authors drew -- there has to be

a line of exposed or unexposed. Other studied have unexposed, low, and high.

Now the problem is in those studies, which we'll come to, when you start breaking it down in too many groups, you end up with too many cells to do statistical analysis on and you lose power and you can't draw conclusions. So in the simplest situation, there's exposed/nonexposed. That's what Baghurst did. Admittedly, I think it would be seen as controversial.

Q Admittedly -- I mean, can we agree that this isn't a very good control at all with regard to dose-response?

A No. I wouldn't agree with that.

Q Okay.

A This is the design of the study. There is no perfect study. I can find criticism in any study, and this is a potential criticism in this study.

Q What do you have next, Doctor?

A Next up here. "Low Birth Weight," in an editorial, "Not a Black-and-White Issue."

Q Okay. This wasn't a study, this was just a --

A An editorial.

Q -- letter someone wrote?
A No. It's an editorial.
Q Editorial. Who wrote it?
A A woman named Ellice Lieberman.
Q What about this editorial did you rely on?
A I didn't rely on anything on this editorial.
Q Okay. Why was it included within the stack of materials we were sent?
A Well, I don't really know. It was -- I think in my statement there was a reference to low birth weight and, for that reason, this was included, because when we were drawing up the list of factors that was mentioned.
Q Okay. I take it the attorney that drafted the report for you, she was the one -- or he was the one, whoever it may have been, they're the ones that pulled the articles for you to stick with your summary?
A No. This article is from me.
Q That's one is from you.
A But that doesn't mean I, quote, relied upon it. This is an article is all it is. It's not even an article. It's an opinion -- editorial

opinion. I believe it was stapled to the front of another article. That's how it --

Q Okay.

A -- ended up.

Q Getting through this, with regard to this, there's nothing in here that you relied upon; is that correct? It's not a study, it's --

A Nothing on that that particularly influences me independent of my own experience.

Q Okay.

MR. GIBLIN: You want to stop here and change your tape?

THE VIDEOGRAPHER: We're off the video record.

(Off-the-record discussion.)

THE VIDEOGRAPHER: We're on the video record.

Q (By Mr. Giblin) Doctor, the next one, what is the exhibit number on that?

A 8.

Q Number 8. This appears -- this looked at pregnancy in adolescents, I guess that's the focus of this?

A Pregnancy in young maternal age. I

11:24 1 think more than adolescents.
2 Q Okay. What about this article was it
3 that you relied in --
4 A This article was of importance to me
11:24 5 in general because in El Paso we have such a huge
6 number of young primigravid teenage pregnancies,
7 and this article noted that young age conferred an
8 independent risk of adverse pregnancy outcome
9 independent of other important confounding
11:2410 sociodemographic factors, quote, unquote. So age,
11 in and of itself, young age of the mother is an
12 important risk factor for adverse outcome.
13 Q That's been known for a while, hasn't
14 it, Doctor --
11:2515 A Yes.
16 Q -- just like the interval between
17 pregnancies, if it's generally shorter than nine
18 months that would likely have a lower birth weight
19 baby?
11:2520 A I don't know about that.
21 Q Okay. But this article, it didn't
22 look at the effect of smoking on the babies, the
23 fetuses, is that correct, or the outcome of the
24 pregnancies for that matter?
11:2525 A It probably did make -- I know there

is references to smoking in here. The rate of smoking -- the rate of smoking among women 18 years and older in Utah is half the national average. So I'm sure they looked at it and there was no conclusion that smoking -- well, what they did is they looked at a cohort of women. And this article reports the effect of maternal age and adverse outcome. Almost certainly they looked at smoking, but that would not have been independently addressed in this article.

Q You're assuming they did, correct?

A No. It mentions they did.

Q Well, in looking at this article, it involved 134,088 white girls, no one of color, between the period of 1970 and 1990, 20 years. Then by my review, looking on page 1116, they indicate that they only had smoking information available for two years, '89 and '90.

A Okay.

Q Didn't use it, apparently. My only point was this was not an article that talked about adverse effects in women who were smokers. Is that what --

A It was not an article that purported to talk about that.

11:26 Q Right.
A It talked about maternal age.
Q Okay. How about the next one?
A Now --
11:27 Q Unless there's something else you feel you need to --
A I think there is. Because your implication there is they didn't look at smoking. They certainly did.
11:27 Q Tell me.
A Page 1116, "Notably, nonsmoking young teenage mothers had a significantly higher risk of delivering a low-birth-weight infant than nonsmoking mothers from 20 to 24 years of age." O they found that smoking was not the issue. Maternal age was the issue in their analysis of data.
Q Could you show me where that is?
A On page 1116 in the second paragraph. 11:27 You may well be right that given the only two-year interval of where smoking was recorded, that weakens the argument, though.
Q Okay. I stand corrected. I wasn't trying to mislead you, Doctor.
11:28 A I know that.

11:28 1 Q I didn't see that there.
2 A You're from Beaumont. You wouldn't
3 try to mislead me.
4 Q Well, thank you.
11:28 5 Getting back, again, if it was only
6 two years that they looked at the smoking
7 information, there was --
8 A That's a deficit in the paper.
9 Q Okay. How about the next one?
11:2810 A "Maternal smoking habits," Exhibit 7,
11 "and congenital malformations: a population
12 study," by Evans.
13 Q What is it -- or what was it, I should
14 say, about this that you relied upon or that you
11:2815 utilized in forming your opinion?
16 A Their conclusion was the "study
17 suggests that maternal smoking does not have
18 teratogenic effects in offspring, except in the
19 case of neural tube defects, where the effect is
11:2920 at most modest."
21 Q What are neural tube defects?
22 A Spina bifida and encephala.
23 Q What is spina bifida?
24 A Spina bifida is where there are
11:2925 defects in the closure of the spinal canal. It

occurs in the first month of pregnancy.

Q So it was found that maternal cigarette smoking was causally related to neural tube defects, is that correct, but it was of modest importance?

A No. No. It doesn't say that.

Q Okay.

A It says that there was -- suggests "does not have teratogenic effects ... except in the case of neural tube defects, where the effect is at most" -- so there was an effect, in other words, an association, with neural tube defects that was modest.

Now this is in a Welch population where neural tube defects are epidemic. In Welch, Scotland, Ireland, neural tube defects are the most common in the world. Now it's circumvented and superseded by the -- it's a different population which we're not particularly interested in talking about today. The population we're interested is the Texas Medicaid population. Smoking was looked at extensively in the Harlingen neural tube defect study, and there was no association in cases and controls in that population of maternal smoking. So, I mean, this

is one population. The population we're interested this Texas Medicaid. In that population, smoking had no influence on neural tube defects.

Q Okay. What's the next article you've got there, Doctor?

A "Neurological Handicaps among Children Whose Mothers Smoked during Pregnancy" by Rantakallio from Preventative Medicine, Exhibit 6.

Q What's important about this one?

A This was a study of children whose mothers had smoked and the issue of neurologic handicaps, including mental retardation, cerebral palsy, epilepsy. Their conclusion in their abstract, "The children of the smokers had perinatal diseases and conditions known to cause long-term neurologic sequelae significantly more often, but the actual number of such cases did not increase. Mortality up to the age of 14 was significantly -- was statistically significant among children born to smokers." So they looked at neurologic handicaps and the clusters of cerebral palsy and epilepsy, and neither the number of handicapped children or the number of various handicaps delivered significantly with

respect to maternal smoking, although the figures were higher among smokers.

Q Okay. So the figures were higher if the mother smoked; is that correct?

A That's correct.

Q Okay. But again, this study I guess -- has I guess suffered some methodological flaws in that they didn't control for maternal education, maternal IQ; is that correct?

A I would have to look at that. Let's look in their discussion.

Q I was just looking at the first page, I think at the bottom down there, third or fourth line.

A Where are you looking at again? On the first page?

Q Yes, sir.

A I would think that they would --

Q "Each pair was matched on the following items: number of children born, marital status, age ... parity." Also "place of residence was checked."

A Okay. This is a Finnish study. The Finns -- in fact, Scandinavians as a whole are compulsive about their epidemiologic reporting

because they have a national registry. Everything is recorded about everyone in Scandinavia, which is why good studies, occupational exposures, genetics, et cetera, come out of there. I would be surprised if they had not recorded -- I think you said maternal education level? That would be almost automatic.

Q Maternal education, maternal IQ, parenting style, quality of home environment, which are things I think you criticized the Drew (sic) methodology for.

A Right. But these -- the Drew was looking at outcome of IQ, okay? This article was looking at other neurologic handicaps such as cerebral palsy, epilepsy, including mental retardation. No one would speculate that parental parenting style or maternal IQ would influence epilepsy or cerebral palsy, but that could be a weakness of the study. You're right.

Q In looking at the chart, Doctor, on page 602, do you see?

A Yes.

Q Under risk factor -- I'm sorry, I can't read the top there of what this chart says.

A Says "Number of children among smokers

in controls who were exposed to perinatal" -- to perinatal, then they made a typo, "of contracting" -- I don't think it's -- I think it was edited badly.

Q Appears that "of contracting these factors attached to maternal smoking: numbers of handicapped" --

A It's uninterpretable.

Q Okay. But anyway, in looking at the information contained in there, in the left-hand side it says "Premature separation of placenta" for "Smokers" then "Controls." For smokers it gives 4, for nonsmokers, 1; is that correct?

A That's correct.

Q It appears that in the study the smokers had four-to-one increase of the I guess that would be placental abruption. Is that --

A Yes.

Q -- correct? Dropping on down --

A Wait. You didn't read the rest.

Q Okay.

A The 95 percent confidence interval crosses unity, therefore it's of no significance. Under that 0.5 to 35.9, you're only dealing with 4 cases in one group and one in the other. If there

was 400 and 100, that confidence interval would be very significant. The confidence interval -- you can skip to the ones where there are stars if we need to spend time on this. But if there's no stars, that means they concluded there was no relationship at all.

Q I see.

A If you want to talk about the stars --

Q We'll hit on the one with the star, the two with the stars there, birth weight and length of gestation.

A What about them?

Q Well, it appears that the --

A They have stars.

Q As you said, they have stars.

A Yeah. Then as I also said, that's good for Dr. Arrington to talk about on Wednesday, I think. He's a neonatologist.

Q Getting to the stars you referenced me to --

A Yes.

Q -- with regard to the smokers, they had almost twice as many low-birth-weight babies, less than 2500, than the nonsmokers in the study. Is that what that says?

11:36 A The relative risk was 2.0 and confidence interval 1.4 to 2.6. So that has three stars, meaning that on the student T test, the P value was less than 0.001 which would be 11:37 statistically significant. So I would -- like I say --

Q It is statistically significant?

A It is statistically significant in the study.

11:3710 Q Okay. And again, the other one being length of gestation less than 37 weeks, appears that smokers had 143 then the nonsmokers had 92. And we have two stars for that indicating that --

A What that indicates is there's less 11:3715 than one chance in 100 that that was a random false conclusion. The three stars would indicate it's less than a one chance in a thousand that that was a random false conclusion, a random false positive event or random false positive result.

11:3720 Q Okay. Good.

Doctor, in looking at the last page of that report, page 605, probably next-to-the-last page, right above the references it states, "To conclude, the implication of maternal smoking in 11:3925 growth retardation at birth is commonly accepted,

and the association of maternal smoking and growth retardation with poorer school performance up to teens has been proved to be statistically significant even though the causal relation between maternal smoking and these problems is still in doubt." Do you agree with that? Does that make sense to you?

A Well, that's -- we can both agree with that, can't we? That's -- you know, that study -- this study doesn't address those. That's an interesting way to sum up an article, but unfortunately I didn't look at this article by Rona, Article 18. I wish I had now. I just can't comment on that statement.

Q Okay. Let me --

A I don't know that I agree with it. I agree it exists here an Rantakallio wrote it.

Q Okay. Let me back up one page, then, also, if I could. It's page 604, about 10 or 12 lines up from the bottom. The section starts out, "Naeye and Peters, who investigated the mental development in the children of smokers by comparing siblings whose mothers smoked in one but not subsequently pregnancies (thus obtaining a built-in control for genetic factors and many

family factors), found that hyperactivity, short attention span, and lower scores on spelling and reading tests were more frequent for the children whose mothers had smoked during pregnancy."

A Yes.

Q Okay. Were you familiar with that study?

A Yes.

Q Okay. Do you consider that to be a reliable study?

A I believe I have it here.

Q That being --

A No. Maybe --

Q This?

A I know that's Naeye. Is that Naeye and Peters?

Q Naeye and Peters, yes.

A Okay. The only problem, again, with the Naeye and Peters study is whether -- is smoking causally related to -- in this study group, or is it a marker of a characteristic of the mother. And that, of course, is a very hard question to answer.

Q Okay. But you agree that Naeye and Peters is a reliable study, a valid study?

A I -- I don't -- particularly having said that about any of the studies, I won't say it about that one.

Q Are there any studies --

A They're all studies. They all have their weaknesses and strengths.

Q Were there any studies on this issue we're here to talk about today you will say are reliable or that are valid?

A Not particularly. I mean, they're all studies that I think were honestly done and have been peer reviewed and published and have been subjected to scrutiny, but none of the studies that we're talking about or none of the studies I read are the final word on any topic. They're a piece of data.

Q Okay. How about the next one there, Doctor?

A That's an article by Rawlings, Deposition Exhibit 5. This had to do with -- I didn't rely on this to any extent other than, again, in the statement we made a reference to low birth weight preterm delivery and perhaps race and their conclusion -- this is what you were referring to earlier, short interval between

pregnancy is a risk factor of low birth weight. It has really very little to do, if anything, to my opinions today.

Q Okay. How about the next one?

A Exhibit 4, article by Verrier. Michele Verrier, "Patterns of infant mortality in relation to birth weight." In particular, this article from Texas Medicine had to do with the issues I deal with, which is the -- what they referred to here as the triethnic population of Texas, looking at maternal -- I mean neonatal, postneonatal and the sum, which is infant mortality rates related to gestational age, birth weight, maternal age, parity, and prenatal care. Their conclusion was all mortality rates are increased in the black population, and preterm birth and low birth weight were strong predictors of mortality. So they looked at Hispanic, Anglo, and black populations and came up with the figures on Table 1, of which both neonatal, which is under 30 days; postneonatal, 30 days to 1 year; and infant, which is birth to one year. Mortality rates were substantially increased in the black population, and then compared that to Hispanic and Anglo populations.

11:44 1 Q Okay. This article doesn't have
2 anything to do with the neurodevelopmental
3 problems or behavioral problems or any pediatric
4 neurological questions that surround maternal
11:45 5 smoking, correct?
6 A No. The reason this was included is,
7 as I said earlier, the other thing I looked into
8 was the demographics of the -- and the specific
9 characteristics of the Texas Medicaid population
11:4510 and particularly the population I deal with in
11 this article. Because it looked at infant
12 mortality and its components, I included that.
13 Q Okay. So I'm sure we'll touch on this
14 a little further when we get back to your report,
11:4515 but the -- your focus was the Texas Medicaid
16 population in the El Paso area, correct?
17 A I would say that was the super focus.
18 I looked at the Medicaid population across the
19 state, but especially where -- among Hispanics,
11:4620 which is about 24 percent of the population in
21 Texas, I believe.
22 Q 24 percent?
23 A I believe that's correct. That was
24 one of the focuses. Since in El Paso about 80 to
11:4625 85 percent of my population is Hispanic and about

11:46 1 60 to 70 percent of my patients are on Medicaid.
2 Q I'm sorry. 60 to 70 percent of your
3 patients?
4 A Varies from month to month.
11:46 5 Q Okay. How about the next one, Doctor?
6 A This is Naeye and Peters 1987 American
7 Journal of Diseases of Children, and it basically
8 addressed issues of antenatal, during pregnancy,
9 hypoxemia and IQ scores later. And it went
11:4710 through the various causes of hypoxemia, or
11 hypoxia they referred to it, and IQ. And they --
12 their conclusion was the factors were sometimes
13 involved in the genesis of cognitive impairments
14 and neurologic abnormalities. It's an old
11:4715 article, not particularly revealing to me.
16 Q Okay. Just that of -- well, again
17 just to make the point we talked about earlier one
18 more time, on the first page there they talk about
19 that -- well, they talk about their chart here.
11:4820 They indicate the various -- that the various
21 analyzed causes of acute and chronic hypoxia are
22 listed in Table 1. Well, if we go down to Table 1
23 and near the bottom, cigarette smoking is listed
24 as one of the causes of low uteroplacental blood
11:4825 flow; is that correct?

11:48 A It is listed there.

Q Okay. I think you and I agree that cigarette smoking does cause a reduction in uteroplacental blood flow?

11:48 A You would need to address that with a perinatologist.

Q But I think getting back to what we talked about earlier, you had done a study on the effect of chronic -- excuse me -- may have been 11:49 acute carbon monoxide intoxication and the effects it had on the fetus. And we had talked at that time that carbon monoxide binds with the hemoglobin and reduces its ability to deliver oxygen to the fetus, correct?

11:49 A Right.

Q And also that nicotine acts as a vasoconstricting agent?

A I never said that. I don't know that. This talks about uteroplacental blood flow, 11:49 which I've never addressed in any article.

Q Based on your understanding, would you agree that cigarette smoking causes a reduction in uteroplacental blood flow?

A I have no independent knowledge of 11:49 that.

11:49 Q Would any of your opinions change if you saw information telling you that cigarette smoking causes chronic -- a condition of chronic hypoxia in the fetus?

11:50 A Well, it would depend upon the validity of the study or the way it was done and the severity of the hypoxia whether that would be of clinical significance. If I thought it was of clinical significance, it might change opinions, of course.

Q Are you aware of the changes that occur in the placenta itself due to maternal smoking?

A No.

11:50 Q You're not aware of any necrotic changes or calcification that may occur in the placenta further compromising blood flow to the fetus if the mother smokes?

A It's never been a topic I've delved into. So I can't say that I've never heard that, but I can't recall when I would have heard it or when I would have been taught that. But again, I think that would be -- whether that's true or not would be an issue to take up with a perinatologist.

Q You had talked about Naeye earlier. Did you read the results of the Collaborative Perinatal Study that was done?

A The Collaborative Perinatal Study, there's been, I would suggest, 10 to 20 studies come out of that. So I can't -- no, I've read many of them.

Q The one dealing with placental pathology.

A No. I've never seen that.

Q Okay. If the study -- the results of that were that cigarette smoking during pregnancy does cause changes in the placenta that reduces blood flow and causes the uteroplacental hypoxia, may that have an impact on your opinions?

A Well, I would have to see it, but I suspect it wouldn't because the broader conclusion in relation to this deposition is that maternal smoking, when studied in the national perinatal collaborative study, had no effect on IQ. So in that context, I doubt that an isolated aspect of the study looking at placental pathology would influence my opinions too much.

Q Do you agree with the statement chronic fetal hypoxia is most often caused by low

uteroplacental blood flow and by maternal or fetal anemia?

A Do I agree with that?

Q Yes, sir.

A I don't agree or disagree. I don't know if it's true or not. I just don't know.

Q With regard to that article, Doctor, the copy that I got was missing page 53. And I can assure you the exhibit is missing 53 because that came from me.

A I'm missing page 53.

Q That's the document I gave you. It's a copy of mine. And --

A You're right.

Q What I'm saying is I didn't --

A Let's see if I've got it.

Q Those are all going to be what I gave you, Doctor. Those are the exhibits. If you could keep them separate from these.

A I don't know where that article is. Maybe it's in here. I believe I had it the other day.

THE WITNESS: Do y'all have it?

MR. HLAVINKA: I don't have page 53. I got mine just as you did.

THE WITNESS: Somewhere along the way it's been lost.

MR. HLAVINKA: I thought I saw it in the stack as you passed it over. Let me look for you.

THE WITNESS: But I believe I got that article from you, Victor. So if you don't have it, I doubt I have it.

There it is. Yeah. There it is.

Q (By Mr. Giblin) Could I take a quick look at it to see if it means anything at all to me.

I would like to get a copy of page 53 if it's possible --

A Sure.

Q -- get that attached.

MR. HLAVINKA: We can ask them after a while to copy it here.

Q (By Mr. Giblin) In looking at page 53, from page 52 on, Doctor, says -- talks about, "This raises the possibility that chronic fetal hypoxia can impair children's" then on page 53 "long-term cognitive performance." Do you agree that that's a possibility that may come out as further studies are done, as we sit here today?

11:56 A It's a speculation on Naeye's part. I don't disagree with the premise that the possibility exists.

Q In fact, we've already talked briefly about one such article that came out in July of this year dealing with behavior disorders; is that correct?

A That's correct.

Q And how that would have an impact or probably would have an impact on your opinion in this case as you study it further, correct?

A Yes.

Q I'm going to give this back to you, but I would like a copy of page 53 if we could.

I believe we have one more article, Doctor. That was Debra Silverman. That was Exhibit --

A Exhibit 3.

Q Exhibit 3. Okay. What was it about Debra Silverman's article, "Maternal Smoking and Birth Weight," that you relied upon or that you utilized in formulating your opinions?

A Well, I didn't rely on it much at all because this, again, has to do with birth weight. But her conclusion was, "These findings neither

confirm nor deny the hypothesis that the smoker rather than smoking per se causes a reduction in birth weight." Again, it goes back over and over again, this is the whole dilemma we're faced here is: Is it smoking? Is it the smoke? Is it hypoxia? Or is it a characteristic of the smoker where the cigarette is a surrogate marker or proxy of some other characteristic that leads to some adverse outcome. In this case, birth weight, as I said, I would defer to the neonatologist.

Q The theory being is that the smoker, that she put forth -- is it your understanding that that was a theory that was initially put forth by The Tobacco -- Institute for Tobacco Research?

A I've never heard any opinion at all of that nature from any -- I've heard nothing from any tobacco company, so I don't know. In fact, it is a valid speculation to raise.

Q Do you know who first coined that speculation?

A No.

Q Okay. This article really added nothing because it doesn't answer any questions, right? It doesn't confirm or deny anything about

11:59 smoking and birth weight about how they relate?

A The only thing that got my attention, it was supervised -- Dr. Silverman worked under the supervision of Dr. Comstock, who was an excellent epidemiologist, and they used a population in Hagerstown, Maryland, called the Washington County population, which has been a very, very -- lake the Framingham study, a very, very extensively followed community population. That was the main reason that I was interested in this article.

Q Okay. And this dealt with births that occurred 50 years ago?

A I don't remember when.

Q Over 30 years to 50 years ago?

A I don't know.

Q Do you know what the composition of the tobacco was at that point in time that they were putting out, tobacco companies, or how it's changed over the years?

A No. I don't have any independent knowledge of that.

Q Okay. Again, no dose-response. Doctor, what is your understanding of the generally accepted affect, if you will, of a woman

who was a smoker before pregnancy who did not smoke during her pregnancy and then who had a baby, what is your understanding of the generally accepted affect that has, the not smoking has on the baby?

A I have no understanding of that.

Q Have you heard that if you're a smoker and you don't smoke when you're pregnant that you will have a baby of greater birth weight --

A I've heard that.

Q -- than if you smoked?

Do you accept that as being reasonable and making sense?

A It makes sense, and I would recommend none of my mothers smoke during pregnancy.

Q In looking at this study, I'm looking at page 515 if you will of the study, and left-hand side -- left-hand column, I should say, is talking about some deficiencies in this thing. It says, "All pregnancies of smokers during after the date of starting smoking had to be classified as 'smoking' because information on periods of temporary abstinence was not requested. Because of this deficiency, systematic misclassification occurred: pregnancies of smokers who abstained

during pregnancy were classified as smoking pregnancies. Such a classification error would result in an overestimate of the birth weight of infants of smokers, if abstinence from smoking during pregnancy is in fact associated with heavier infants." We know 20 years later that, yeah, if you don't smoke during pregnancy you're going to have a heavier baby; is that correct? This wasn't a consideration back when Silverman did her study?

A She didn't do the study. She gathered data that was collected from '63 on and in '77 published the study --

Q Correct.

A -- looking at data. So she had nothing to do with the design. All she does is with Comstock's, I'm sure, insistence, is honest about recognizing potential flaws of the study.

Q Obviously this is a serious flaw if the surgeon general has determined that you're likely to have a closer -- larger baby, obviously, if you don't smoke; is that correct?

A The American Journal of Epidemiology editors didn't consider it a serious flaw or they wouldn't have published it.

Q 20 years ago?

A Published 20 years ago.

Q So I guess 20 years ago that wouldn't have been a flaw, based on what we know today; is that a fair statement?

A It was published 20 years ago. Flaws or no flaws, it was published 20 years ago.

Q Again, you don't need to look unless you want to, on page 520 she mentions another flaw in the study that was done before she got the information. And that is, they didn't include neonatal deaths. 520, Doctor. I'm looking about right in here.

A Yeah.

Q They didn't include the deaths, the neonatal deaths, and they comment, "Moreover, since smoking has been associated with high neonatal mortality and low birth weight, excluding dead children, may have resulted in overestimation of the birth weight of the infants of smokers, thereby accounting for some of the mean birth weight differences observed among infants born to mothers who smoked only during the second pregnancy." You and I can agree, Doctor, that's a serious flaw in the study, correct?

A Not necessarily.

Q Okay.

A Maybe some of the -- that is what's called a non-differential error. Maybe some of the babies who died, in fact, were heavier. We don't have data so we can't conclude that it worked in a differential way. In other words, went toward one direction. You can't conclude that.

Q Because we don't know why they died; is that what you're saying?

A We don't know why they died. We don't know what -- we have no date. We don't know what they weighed. Maybe they were Gaussian distribution of weights. Maybe you're right. Maybe you're completely wrong. We can't conclude anything.

Q Much like this article itself, it can't conclude anything by its finding, correct?

A Are you correct or is the article correct?

Q I mean, at best this study gives a Scottish verdict. What is that?

A I don't know what that means. She --

Q What is it says --

A She concluded that she can't conclude -- she can't conclude whether it's the smoker or the smoking. She said she can't conclude.

Q In light of the --

A So everyone wins.

Q In light of the numerous flaws in this, wouldn't it be more likely than not that her conclusion would have been --

A Well, but they're not flaws. These aren't -- you say flaws as if they're malicious or intentional.

Q I'm not implying that.

A They took --

Q I'm not implying that.

A They took data that they collected from '73, maybe before she was an M.D., and you deal with imperfections in people and studies and in data. And she took what data they had and analyzed it.

Q I understand that, Doctor. All I'm saying is in light of what we know sitting here today in 1997, we know that if you don't smoke you're going to have a bigger baby. Well, that wasn't considered, because if you ever smoked in

your life, if you were down as a smoker, you were going to be a smoker irregardless of whether or not you smoked during this pregnancy. Number one we know that happened; and number two, they didn't include neonatal deaths which we also know that are associated with maternal smoking while pregnant. My only point is in light of those two, that in light of what we know in 1997, today, that this article -- this study is really not reliable on any issue, fair?

A That's going about ten times farther than I would. If you don't want to include the study, I won't include the study either.

Q It's up to you. This is one of the ones you gave that you relied upon.

A I didn't say that.

Q Okay.

A Fine.

Q Let's take a look, I guess, Doctor, at what you've got in front of you.

A Which stack?

Q We started talking earlier -- rather than for me to try to take a look at this, what I would like you to do, Doctor, is tell us for the record what it is. And I will get a bundle of it

rather than -- would it be easier for you, Mr. Court Reporter to mark a bundle or do each one?

THE REPORTER: It doesn't matter to me.

MR. GIBLIN: We'll mark each one, then.

A What would you like me to do?

Q (By Mr. Giblin) To your right, what do we have there?

A These are expert disclosures furnished by Mr. Hlavinka to me of witnesses that are the -- I guess instead of the tobacco experts, these are the Medicaid experts.

Q Okay. State of Texas?

A Yeah.

Q Okay. These are the State of Texas experts?

A These are the State of Texas experts.

Q Okay. Dr. Michael Speer. You also have, I see, Dr. Speer's CV, let's see, and expert disclosure. Then you have expert disclosure on Gerry Oster, Ph.D. Then DeAnn Friedholm -- Friedholm. Philip Huang. David Burns. That's it in that area. Okay.

Doctor, with regard to Dr. Michael Speer, I see that you've highlighted some areas on this disclosure. What is significant about the areas you highlighted for Dr. Speer?

A Well, when I received these, I read through to see what the focus of their opinions would be. So all that is is that's the focus; what my eye caught as the focus of their opinion.

Q Okay. Do you disagree with Dr. Speer on any points?

A Speer is a neonatologist. Most of his points I would defer to the neonatology experts. On point "B" he refers to the Drews article. He simply makes comments about the Drews article, which I assume we are going to go over in gruesome detail.

Q Not necessarily.

A So we might just defer on that.

Q Okay.

A But he uses that as a point. The SIDS thing I have no expertise in. I wouldn't comment on SIDS. And then the other issues have to do with neonatal or perinatal care.

Q Okay.

A There's nothing in any of these --

really Speer is the only one, S-p-e-e-r, is the only one that focuses on the issues I'm talking about today if you want to save time.

Q Okay. Dr. Oster -- you're not going to offer any testimony contrary to what his disclosure was or --

A No.

Q -- the person from the Texas Department of Health?

A No. DeAnn Friedholm, who I don't believe she's with the Texas Department -- I believe she was with Texas Medicaid if that's who you're talking about.

Dr. Huang, I don't particularly plan to offer any opinions on his statements. I do have records -- a lot of records from Texas Medicaid State Health Planning reports, et cetera, that he refers to in here. But mostly he talks about cancer, I believe, and I have no -- will have no opinions on that.

Q Okay. And the other one?

A Dr. Burns talks about COPD, heart disease, cancer, and then he get in -- I don't know if he -- he gets into econometrics a bit, which I will not comment on.

Q You will not; is that correct?
A On econometrics, no.
Q Okay. If I could, let me get these marked and have a copy of these attached just as one group.

(Deposition Exhibit 13 was marked.)

Q (By Mr. Giblin) What else, Doctor? You mentioned these earlier, and my only question is what's the significance of them. If you could describe them, tell me what the significance of it is.
A The Wakschlag article we've talked about at length. Do you want to go over that again?
Q No, sir.
A Conduct disorders.
Q We've talked about that.
A Okay. The Drew article, do you want to do that now or do you want to put that after we go through everything else?
Q We'll -- let's go through all this then we'll go through that, okay?
A All right. These --
Q I'm going to want these marked so if

we could put this --

MR. HLAVINKA: This is Wakschlag here. Do you want this marked too?

MR. GIBLIN: Yes, sir.

A I have two copies of it anyway. This is two Border Health Conferences, one held in El Paso in '89, I think, and the other held in McAllen in '91 sponsored by Texas Medical Association and Texas Department of Health in which they look at the health issues having to do with the border region, which is of interest to me because I'm on the border. Also a great deal -- very valuable information on Hispanic health issues and demographics that have to do with my practice. Why would this come up? Again, because I treat a large sample of indigent patients, Medicaid patients. This has to do with Texas Medicaid reimbursement.

Q Doctor, in utilizing the information you just sat back on the table, do you plan on testifying at the time of trial on the issue of damages? By that I mean are you going to come up with some model or some equation that shows what Texas should be entitled to or what Texas should not --

A Absolutely not.

Q -- try to make a claim for?

A No. Well, I mean --

Q Defensively speaking. Obviously the State of Texas is claiming reimbursement for --

A I'm certainly not going to come up with any econometric model or number or anything like that. I will express opinions about the relationship of smoking to pediatric neurologic and behavioral disease, but I will not translate that into any kind of number of children or number of dollars.

Q Okay.

A If that's what you're asking.

Q Yes. What else, Doctor?

A Include this when we get to this stack here.

These are more issues of the demographics of Texas from State (sic) Research Center in May of '93. Valuable information. Health Issues on the Mexican Border from JAMA, 1991, by Warner from LBJ Center. An interview with Dr. Lawrence Nicky who was the director of the El Paso City County Health District and a leader in the border health issues.

Q Are these articles we're getting into now that you were provided by Mr. Hlavinka or did you --

A I requested this and he found this. And I requested information on demographics and Texas Medicaid and he provided that. This is my article. A lot of these he provided at my request.

Q Okay.

A They're state publications.

MR. GIBLIN: Why don't we do this at this point -- can we take a short break?

MR. HLAVINKA: Yes.

THE VIDEOGRAPHER: We're off the video record.

(A recess was taken.)

THE VIDEOGRAPHER: We're on the video record.

Q (By Mr. Giblin) Doctor, during the break we went ahead and marked as Woody Exhibit Number 13, the stack of expert disclosures of the state's experts that you received. We also marked as Woody Exhibit 17, a paper called "Demographic Factors Affecting Texas." You've already talked about it. Woody 16 being Health Conference

Proceedings, August 1989. You've already talked about that one. Woody Exhibit 15 being Change on the Border Impact on Health, 1991. You've talked about that one. And Woody 14 being the Wakschlag article, "Maternal Smoking During Pregnancy and the Risk of Conduct Disorder in Boys" from Archives of General Psychiatry, 1997, and we talked about that one.

What we've done also, Doctor, is just marked your notebook that you've got there as Exhibit 19 -- Woody Exhibit 19; and then the file with the articles as Woody Exhibit Number 18. And to try and expedite this, would you just -- I would like you to identify what the articles are in there and whether or not you had requested the article or that the article was provided to you by the attorneys for the tobacco companies. And if you used it in any way, what the significance is of it. You don't have to go into great deal, but whether or not you asked for it or they gave it to you and why do you have it.

A In the notebook I have five letters from Mr. Hlavinka that were cover letters. I have an article which was -- I was aware of and I don't know if I requested he provide it or not, but I

was aware of this article by Warner on Health Issues on the U.S.-Mexican Border. An important article published in JAMA 1991 reviewing the considerations of -- that are unique to Texas and particular to the Hispanic population on the border. This is a interview with Dr. Nicky, who's a friend of mine in El Paso, who was the director of the El Paso City County Health Department which he provided for me, again outlining those issues.

There's two articles on obesity and diet in Mexicans in the -- Texas, American Journal of Epidemiology, one on cardiovascular risk factors and one on diet, and the same San Antonio heart study discussing the dieting behavior and eating -- cultural eating patterns of Mexicans and Hispanics in Texas. Another article from the --

Q One second, Doctor. Why would that be of interest to you in the area of pediatric neurology if you're studying the incidence of diet -- I guess in relation to coronary heart disease --

A No. Not that. I'm not going to have any opinions on coronary heart disease. It has to do with, again, the spinal dysraphism, the spina bifida epidemic in '91 and '92 in Cameron

12:31 1 County and the outcome of that, the National
2 Institute of Health recommendation that folate
3 decreased the incidence of spina bifida, and
4 looking at the Hispanic diet from the standpoint
12:32 5 of components that might be associated with
6 neurologic disease in the offspring.
7 Q Why is that important from the
8 Medicaid perspective?
9 A Because certain populations have diets
12:3210 which differ from the, quote, norm, unquote, in
11 various components. For instance, in iron vitamin
12 A, folic acid, vitamin C, fat, et cetera.
13 Q I see. From the standpoint of
14 something else other than --
12:3215 A As a confounding factor.
16 Q -- other than maternal smoking being
17 responsible?
18 A Yes. And the only major finding that
19 came out of this massive Texas State Department of
12:3220 Health, CDC, and many other agencies following
21 the, quote, outbreak, unquote, of spina bifida in
22 the Valley was the recommendation that diet be
23 supplemented.
24 Q Okay.
12:3325 A This is a -- Nutrition and Cancer

Prevention from Texas Cancer Council, Cancer Prevention and Control. Again, I was looking -- this had to do more with cultural factors. I'll express no opinions of any kind regarding cancer, but this had to do -- sections in here had to do with diet and cultural patterns among Hispanics and blacks. And Mr. Hlavinka provided those for me.

Then I have a series from '87 to '93, I believe, of the Texas Department of Public Health -- Behavioral Risk Factors Surveillance. Dr. Huang refers to this in his statement. It's provided again by Texas Department of Health through Mr. Hlavinka, looking at various behavioral markers of the health compared to the U.S.

Texas Risk Factor Report. It's the same behavioral risk factor, but a summary of '88 to '93. Again, a summary of Texas Health Demographics.

Then some very interesting state health plans 1987 to '88, '95 to '96.

Q What's significant about them?

A They review -- they give an update on demographics of Texas, a distribution of ethnic

populations, access to medical care, fertility rate, infant mortality rate, postneonatal, neonatal mortality rates, educational level. They give all the typical markers that in public health are markers of health or illness of the population.

Q Based upon that information, would it be possible to fashion a model to determine what the Medicaid costs would be associated with treating those people?

A I wouldn't know. I mean, I do have other data on Medicaid hospital discharge summaries where cost factors are coming in, but I have no expertise or interest in fashioning models of reimbursement.

Q Okay.

A So this is more for baseline demographic data.

And then I have a series of Texas Medicaid discharge data summaries from the State Department of Health, again showing the distribution of illness, and the annual report of the Texas Department of Health. Several of these, the latest '93 and '94, which this one emphasized Hispanic health when David Smith was commissioner

12:35 a couple years ago. It was called Building International Bridges in Public Health, and it was of particular interest because it dwelled on the neural tube defect issue in the Valley in Cameron County in '91 or '92, I can't remember.

Q How long have you been in the Valley practicing medicine?

A Well, El Paso, we don't really call a valley. But been on the river since '93.

12:36 Q The river. You're correct. I misspoke.

A Yeah. And --

Q Next I guess if you could take a look at what's in Woody Exhibit Number 18.

12:36 A This really should be in the other stack. It's Minority Health Issues, 1995 report to the 74th Legislature on Minority Health Initiatives and Culture. Very interesting reading for anyone who has a large Hispanic population like I do, a large Medicaid population.

This is an article by Herbert Needleman from a series by Zoltan Annau, A-n-n-a-u, who I knew at Johns Hopkins, on "Prenatal Exposures to Toxicants." This, I 12:37 believe, was from my own records. He summarizes

issues of tobacco and alcohol --

Q Talked about what smoking causes to the fetus?

A He addresses that issue, yes.

Q Does he make the point that maternal smoking does have adverse impact upon the fetus?

A I believe he does.

Q Okay.

A This is a Rantakallio article we've already talked about. That's already been named as an exhibit -- the Finnish article.

Q Yes.

A I'm going to come back to these. I'm clustering these so we can go through them all at once.

This is the Baghurst article we spent time on.

Q Okay.

A This is the Evans article we spent time on already. The Silverman article we've spent time on.

This is a very interesting Volume 2, Number 2, December '96 Texas Department of Health Birth Defects Monitor which I receive regularly from Austin. And they made some interesting

12:38 1 comments, which I believe are widely accepted, on
2 the issue of adverse neonatal outcomes.
3 Q Okay.
4 A This is that editorial attached to the
12:38 5 Rawlings article. This is how I -- I provided
6 this.
7 Here is your list of information you
8 requested on Friday at 4:51 p.m.
9 Here is another copy of my report.
12:3910 This is the Fraser article we talked
11 about from the New England journal.
12 This is a summary of called "Texas
13 Medicated in Perspective," which puts Texas and
14 Medicaid in perspective to the other states'
12:3915 Medicaid programs and populations.
16 Q How does Texas match up to the other
17 states with regard to Medicaid?
18 A Bigger and better. It's a huge
19 Medicaid population with special needs. Of course
12:3920 this is monitored by many, many different
21 parameters, and Texas is simply ranked. So Texas,
22 without any question, has, you know, perhaps next
23 to California, some of the greatest needs in the
24 country, both by size, by issues of uncontrolled
12:4025 immigration across the border, by poverty,

fertility of Hispanic and black populations.

Q Let me ask you this --

A Yes.

Q -- on that. What percentage would you say of the total Medicaid expenditure for any given year, in a particular year, would be attributed to the illegal immigration?

A Well, through indigent programs, actually the number is small, but it's a factor that is hard to quantify because the standard practice of an illegal immigrant is to adopt an American address then have perhaps other falsified papers. So it's an unknown, but I have a lot of illegal -- who I know are illegal here -- without any, quote, papers, unquote, as they call them, who have Medicaid. It's an unknown. It's a burden that other state don't face perhaps as much as Texas, New Mexico, Arizona, and California.

Q Would you agree, though, Doctor, in light of the enormous Medicaid dollars spent every year in Texas, that that component, that being the illegal alien component, would not be in any form significant?

A It's under 5 percent, perhaps under 2 percent, but --

Q Perhaps under 1 percent?

A I don't know. But dollarwise, dollarwise you're talking about millions of dollars. I know a --

Q I understand.

A -- million dollars isn't much to an attorney, but --

Q Well, rich doctors, I mean --

A I know. But it depends on where you live. If you live in a city where the population is 80 percent Mexican, it seems greater, perhaps.

There's an article that I published on the carbon monoxide intoxication, it's an article reviewed already, on the Texas triethnic population.

This is a very interesting article which I requested and I got from the Paso Del Norte Foundation that Dr. Nicky now directs. It's a foundation that was created in 1995, I believe, when Providence Memorial Hospital was bought. That had been a community hospital and, for that reason, it had generated -- it had received a lot of contributions. The foundation was created with the sale of the hospital with $120 million. It's one of the largest foundations

12:43 1 in Texas now. But it is dedicated to issues of
2 health on the border, and it's a very nice summary
3 of the recent study -- the executive study was
4 published in January '97.
12:43 5 This is an article from Time magazine
6 which I found on the issue of the Harlingen,
7 Cameron County, spina bifida issue and litigation
8 that's resulted from that, emphasis on the
9 maquiladoras and environmental toxins released
12:4310 from maquiladoras in Mexico poisoning the water
11 supply in the US. That's the hypothesis.
12 These are articles which I've only
13 scanned briefly, I received last week from Vincent
14 Miller, cigarette smoking attributable medical
12:4315 costs incurred in Texas, and Wendy Max, Dr. Wendy
16 Max, the same. I've only sort of flipped through
17 these. Most of it is tables. I have no comment
18 on it and I won't testify to anything in there.
19 Q Okay. I think you answered my next
12:4420 line of questions. With regard to the two
21 documents you got last week entitled "Examination
22 of Smoking-Attributable Public Expenditures for
23 the State of Texas," 1968 to the year 2007, dated
24 July 3, 1997, whatever is in that document you
12:4425 don't plan on relying upon in expressing any

opinions or commenting upon the costs associated with the State of Texas and their Medicaid program; is that correct?

A That's correct. This is one of the reports prepared by witnesses for the State of Texas on, I assume, econometrician. I don't know this person. And there would be much more qualified people. She's speaking a language that I'm not familiar with. And then this is all basically -- again, this is a language I'm not familiar with so I wouldn't comment on those two publications.

Q Okay. Is that it for that folder?

A Well, no. This is the article -- this also was in that folder. I set these aside.

This is the article by Carolyn Drews, D-r-e-w-s, from Atlanta, "The Relationship Between Idiopathic Mental Retardation and Maternal Smoking," which was out of Pediatrics in April of '96. And because of the provocative nature of her article, I did do a -- asked Mr. Hlavinka to do a MEDLINE search, which he faxed to me, of her other publications. And we have stacks of articles -- stack of articles which I have here which Dr. Drews has coauthored. One is from the

12:46 1 American Journal of Industrial Medicine, 1993,
2 "Mental Retardation in Ten-Year-Old Children in
3 Relation to Their Mother's Employment During
4 Pregnancy." Another is by Dr. Drews.--
12:46 5 Q Let me stop you right there if you
6 could, Doctor. The document or article you just
7 referred to in 1993, did you have a chance to read
8 it and review it?
9 A Yeah.
12:4610 Q What do you think about it?
11 A Which one?
12 Q The 1993 article on Carolyn Drews?
13 A The '93 or the '96? This is
14 the '96 -- the one in April '96.
12:4615 Q Right.
16 A What do I think about it?
17 Q What do you think about the '93
18 article first.
19 A This article?
12:4620 Q Yes, sir.
21 A It's an important article. It's the
22 same cohort as in the '96 article, the '95
23 article. This is like this Hagerstown thing we
24 were talking about. They took a cohort of
12:4725 children from the Atlanta five-county metropolitan

area and they followed them and they did many different reports of data. And the article on maternal employment was published in '93, two years before the -- two to three years before the Idiopathic Mental Retardation article.

Q Okay. It's a reliable article? What was the conclusions --

A I don't know that it's a reliable article. I mean, it's an article. Y'all -- I think it's an important article.

Q What conclusion did it reach?

A Well, it drew many conclusions. The most important one was that exposure -- mothers who worked in textiles and chemicals had a tenfold increase of mild mental retardation. In -- that's one of the main conclusions.

Now in the context of what we're doing here today, that's an extremely important conclusion given the odds ratio that were reached in her 1996 article, which was about 1.5. Here we have a 10. The confidence interval was also significantly different. And the importance of this article was her discussion on page 580 of the confounding factors, which was a -- very important.

12:48 1 In addition to that, she in this
2 article and all of her other previous articles, is
3 very clear of several things. Number one, it's
4 the same cohort. Number two, unless she tells me
12:49 5 different, what she did is she ended up with a
6 database and collected many, many, many, many
7 pieces of data, and then she went back and
8 selectively analyzed various parameters: black
9 race, maternal employment, cigarette smoking. She
12:4910 ended up, then, with various risk factors for each
11 one.
12 Now when you step back in 1997 and
13 look at her 1996, '93, '95 articles, she reports
14 the mental retardation and maternal smoking in the
12:4915 same group of patients that she discussed with
16 black race as a risk factor and maternal
17 employment as a very high risk factor.
18 Q Okay. Again, that would be one of
19 your criticisms of the 1996 study; is that
20 correct?
21 A Well, I haven't even gotten to it yet.
22 Q Okay.
23 A My criticism is, why does she not
24 discuss which of the mothers who smoked were
12:5025 textile workers and which were black? Why does

she not even mention that the risk factor odds ratio of 10 as a enormous risk factor, and yet she talks about a risk factor of 1. -- odds ratio of 1.6 for smoking, which has a confidence interval that includes unity, which would make it no different than the control group.

Q Okay.

A So it's of interest.

Now the other reason that I find this is of great interest is her own very honest critique of the article, her article here. On page 577 of American Journal of Industrial Medicine on the textile -- the maternal employment during pregnancy she says, quote, Several mythological issues should be kept in mind in interpreting the results. A prime consideration was that our study was a hypothesis-generating effort than a hypothesis-testing investigation. Without any strong a priori hypotheses, any particular, quote, positive, unquote, result has to be interpreted cautiously. Everyone odds ratios whose 95 percent confidence intervals exclude unity could still have occurred purely by chance.

And then when she concludes her

article, she says, Hence on the basis of our data, we hesitate to speculate about possible links between mental retardation and specific exposures in the apparel and textile industries. That was with an odds ratio of 10. She says she won't everyone speculate about the link. And yet in '96 she publishes an article -- which by the way was a hypothesis-generated article. It was not a hypothesis-testing article, definitely. And she had an odds ratio of 1.6 and she draws the conclusion, quote, Our data suggests that maternal smoking may be a preventable cause of mental retardation. So there seems to be a real strong double standard here.

Q Okay. Do you still review articles for pediatrics magazines? Weren't you an article reviewer for a while?

A Not pediatrics. For Pediatric Neurology and Journal of Child Neurology and Annals of Neurology and maybe one or two others. But no, I haven't in several years.

Q Okay.

A And then the next article -- you want me to go on with --

Q Sure.

12:52 1 A -- the rest of the stack?
2 Q Just -- not going into detail, just --
3 A This is another article by Drews and
4 her -- by the way, the same exact coauthors of all
12:53 5 the other articles. They obviously worked as a
6 team on this cohort. Mild Mental Retardation in
7 Blacks in Metropolitan Atlanta, 1995.
8 "Variation in the Influence of
9 Selected Sociodemographic Risk Factors of Mental
12:5310 Retardation," American Journal of Public Health,
11 1995. Again the same cohort.
12 This is the conduct disorder fax from
13 Mr. Hlavinka. It's just the abstract, which is
14 super dated now.
12:5315 A very interesting article by
16 Dr. Drews, not having to do with the cohort on
17 differential recall results in case studies, which
18 I can go into if you like, or I can not, whatever
19 you want.
12:5320 Q Not.
21 A Recall Bias in Case-Control Study of
22 SIDS. Again I'm not interested in SIDS, but in
23 the issue of her formulation of recall bias in
24 case-controlled studies published in International
12:5425 Journal of Epidemiology in -- sometime.

12:54 1 And then this article by two source
2 data points and estimated odds ratios in
3 case-control studies by Drews.
4 Then the Methodology for -- to Correct
12:54 5 Differential Misclassification by Drews, 1995,
6 Epidemiology -- I don't know which journal. I
7 think it's in Epidemiology from looking at the
8 print. Yeah. Epidemiology.
9 Q Okay.
12:5410 A Those are other publications of
11 Dr. Drews that do relate strongly to sort of the
12 pro-ban publication which came out which but
13 her '96 article.
14 Q These are articles that will be
12:5415 contained in the Exhibit --
16 A Yes.
17 MR. HLAVINKA: 18.
18 Q (By Mr. Giblin) Doctor, you were a
19 member of the American Academy of Pediatrics; is
20 that correct?
21 A Right.
22 Q Are you still a member of the
23 American --
24 A No.
12:5525 Q -- Academy of Pediatrics?

Why not?

A I wasn't going to their meetings. It was just excessive dues and paperwork. No reason for me to be a member of it.

Q What is the American Academy of Pediatrics?

A It's the national organization of pediatricians and board-certified pediatricians.

Q Okay. Is it a well-renowned --

A Yes.

Q -- group of physicians?

Do you still receive any information from them, any technical bulletins or --

A No. But I get Pediatrics every month, which is their publication, and I read it. They have consensus statements and -- if I requested information they would send it to me.

Q Okay. Let me show you --

MR. GIBLIN: Let me get this marked, please.

(Deposition Exhibit 20 was marked.)

Q (By Mr. Giblin) Doctor, I show you what's been marked Exhibit, what is it, 20?

THE REPORTER: Yes.

Q (By Mr. Giblin) Have you ever seen that document before? It's from the American Academy of Pediatrics.

A I don't -- I'm not familiar with this article. I was in Syria at the time when this was published, so I wasn't getting neurology. I recognize it's a consensus statement from the Committee on Substance Abuse of the American Academy of Pediatrics.

Q Have you ever read this consensus statement?

A No.

Q What is a consensus statement?

A Well, they have a committee and they will go through their meetings and end up with various drafts that the people feel are scientifically and politically appropriate, either to summarize the current state of a topic or in the direction in which the American Academy of Pediatrics believes children's healthcare should be pulled toward.

Q Obviously you practice in the area of pediatric -- you practiced in the area of pediatrics.

A Yes.

:57 1 Q Correct?
2 A I notice Mannie Schydlower was the
3 chairman of it in 1993-94. He's an adolescent
4 pediatrician in El Paso who's a friend of mine.
12:57 5 Q All right.
6 A S-c-h-y-d-l-o-w-e-r.
7 Q I would like to take a look at a
8 couple areas doctor and see if you agree or
9 disagree with the -- with this statement.
12:5710 A Okay.
11 Q The beginning of the article states,
12 "Smoking is a leading cause of preventable death
13 in the United States." Do you agree with that?
14 A Are we going to go through sentence by
12:5815 sentence?
16 Q Well, I'm going to try to group it to
17 where it's maybe five or six. Do you agree with
18 that question?
19 A Uh-huh. Yes.
12:5820 Q Okay. "The dangers to children of
21 both active and passive tobacco exposure,
22 including smokeless forms, are so well established
23 that pediatricians should make the elimination of
24 this threat a major issue as they pursue the goal
:5825 of a tobacco-free generation by the year 2000."

Do you agree with that?

A Yes.

Q Dropping on down under Perinatal Hazards, states, "Smoking during pregnancy has been associated with certain childhood cancers. It doubles the likelihood of bearing an infant with intrauterine growth retardation and it increases the risk of spontaneous abortion, premature rupture of membranes, and delivery of a stillborn infant. Both intrauterine exposure to tobacco smoke and passive inhalation by the infant seem to be associated with increased risk of sudden infant death syndrome." Do you agree with that?

A Those are all scientific statements that other expert witnesses in the field should address. The first two statements, yes, those were opinions, and I don't disagree with those opinions. These statements, however, ought to be addressed by expert witnesses.

Q Okay. I mean, you have no opinion on this?

A My opinion doesn't matter in this context. I think experts -- you will have experts in pediatric lung disease and cancer and

neonatology and their opinions matter. Mine don't matter.

Q Okay. As a former member of the American Academy of Pediatrics, you do not feel like you could comment on whether or not you agree with the position statement set forth by the American Academy of Pediatrics?

A Well, we haven't come to their conclusions yet. I don't -- I'm not saying I disagree with any of this. I'm saying I'm not an expert in it and you-all have the resources to get people who take care of lung disease and childhood cancer and neonates on a daily basis. They should be commenting, not me.

Q What about children? Are you comfortable commending on children since you treat children on a daily basis?

A In some aspects of pediatric care I am, yes: neurological, behavioral, and psychological issues.

Q Let's drop down to the next category. Childhood Complications of Exposure to Environmental Tobacco Smoke. It starts off, "Children exposed to cigarette smoke, especially from birth to two years of age, have an increased

risk of a variety of medical disorders. They exhibit an increased incidence of upper respiratory tract infection, middle ear effusion, allergic complications and impairment of pulmonary function, problems that exhibit a dose-response relationship." Do you agree with that?

A A pulmonologist would be appropriate to answer that. Now if you're asking would I encourage a mother to smoke around her child, I would say no.

Q Does this statement make sense to you as an M.D.?

A Makes sense to me, yes.

Q Okay. Next, "Furthermore, such children run an increased risk of lower respiratory tract infection such as bronchitis and pneumonia. Children with asthma show exquisite sensitivity to ETS, which is causally associated with the additional episodes an increased severity of wheezing." Does that make sense to you as a medical doctor, that statement? Can you understand --

A Yeah. I think I can understand. Such children run an increased risk of -- I don't know that, that children from birth to two -- and I

wouldn't know it. I don't deal with those children. A pulmonologist would be probably better equipped than me to -- I don't disagree with anything that this consensus statement has said so far, but I'm not in that area of subspecialty to comment on its clinical importance or scientific veracity.

Q Okay. Just a few more here, Doctor. "Exposure to the smoke of as few as ten cigarettes per day may increase the likelihood of developing asthma in a child who has never before shown symptoms." Does that make sense to you based on your training as an M.D.?

A Makes sense to me, except I grew up where both parents smoked constantly and I was exposed to cigarette smoke in the cars, at home, everywhere else. It was a common experience among all of us, probably. And I don't disagree with it, although my own personal experience, I didn't develop asthma.

Q Do you smoke?

A When I was in the Middle East I started smoking water pipes which has, believe it or not, tobacco in it. And about once a week or once a month I will have the tobacco from the

Middle East and smoke it. I've never smoked cigarettes, pipes, or cigars, or chewed any tobacco.

Q Last part of this section, "Furthermore, adverse effects unrelated to the respiratory tract, including the increased incidence of cataracts and long-term behavior problems, have been directly related to exposures to ETS during childhood." Is that something in your arena there, Doctor? Do you agree with that statement?

A I know nothing about cataracts. I've even heard that. Long-term behavior problems in children exposed to ETS, I've never -- I'm not familiar with that. What is that reference there to -- is it 26 or 27 or -- I guess it's 25, the Whitesman -- Maternal Smoking and Behavior Problems in Children. I'm not familiar with that article. I would like to see it.

Q Okay. Next page, Doctor, and I realize this comes from a group of pediatricians, just like you were at one time. Under Addiction, it says, "Nicotine found in tobacco is an extremely addictive substance accounting for perhaps for the 60 percent failure rate reported

by those two attempt to quit smoking." Based on the state of your knowledge, do you agree with that statement?

A I'm not an addiction expert and I don't profess to have any particular knowledge about the addiction potential of nicotine and/or the behavioral aspects that would account for the failure of people trying to quit smoking.

Q Under Conclusions, it states first, "Tobacco is a major health hazard to children and adolescents." Do you agree with that as a physician, Doctor?

A I would recommend that mothers not smoke during pregnancy, that they not smoke in the presence of their children, that their children not smoke, and that they would grow up not smoking.

Q And the reason being, Doctor, that it is a major health hazard to smoke?

A It could be a major health hazard in -- the particular reason I was asked to give this deposition, does maternal smoking lead to neurodevelopmental problems, I believe that remains controversial and unproven.

Q Okay. Putting that aside, the other

13:06 1 issues, as a physician, my question to you is, The
2 other issues, would you generically --
3 A Which other issues?
4 Q -- general agree, Doctor?
13:06 5 A Which other issues?
6 Q I'm not going to get specific because
7 we've already tried to do that with regard to
8 diseases and cancers and --
9 A If we're not going to get specific,
13:0610 I'm not going to answer the question.
11 Q Okay.
12 A But I don't -- I don't claim and I've
13 already told you and you've asked me not to
14 express opinions on heart, lung, cancer, and I
13:0615 don't plan to, so, I mean, you know, I'm going to
16 have it all one way or another, I guess.
17 Q I asked you not to because you
18 wouldn't today. I asked you the question today to
19 find out if -- what your opinions were, and you
13:0720 decided you did not feel comfortable answering and
21 you're not an expert in that particular area; is
22 that correct?
23 A Well, and I hope you understand that
24 my generic opinions should account for nothing in
13:0725 the context of this litigation, when there is

other experts who can be hired by both sides to express opinions that would be more valid than mine.

Q Okay. But again, getting back to this, "tobacco is a major health hazard to children and adolescents." I asked if you agreed with that. That's the way you feel and you indicated that if anyone smoked you would encourage them to stop smoking, correct?

A I didn't say that, but I would not disagree with that.

Q Would you agree with the statement that "tobacco is a major health hazard to children and adolescents"?

A If we were sitting around drinking coffee or beer or something and you raised that, I might agree to that. In the context of this litigation, I can't agree to it because I'm not an expert in health in general across children and adolescents.

Q Okay.

MR. GIBLIN: We need to take a break so he can change his tape.

THE VIDEOGRAPHER: We're off the video record.

(A recess was taken.)

THE VIDEOGRAPHER: We're on the video record.

Q (By Mr. Giblin) Doctor, before I get into this, you're familiar with ACOG, the abbreviation ACOG?

A I am.

Q Okay. American College of Obstetrics and Gynecologists? Does your particular specialty have a procedure such as ACOG does where they send out technical bulletins in the area of pediatric neurology?

A No. The -- not really. There are -- well, in neurology, the Journal of Neurology from the American Academy of Neurology, there is a technical subcommittee which has to do with technology, though. With the American Academy of Pediatrics, there are committee or consensus statements like the one you showed me. I've never looked in the OB/Gyn literature -- I mean, I don't get the journal, I don't scan it. I've seen articles from there. I don't know -- but it seems like ACOG has a more formalized procedure for disseminating, quote, guidelines, unquote, or standard of care, unquote. I don't believe that

either pediatrics or neurology or child neurology is nearly as formalized as ACOG is in the dissemination of, quote, standards of care, unquote, or, quote, practice guidelines, unquote.

Q I guess the dissemination of new information such as the effects on the fetus of maternal smoking you would expect ACOG to be more attune to getting that information out when it becomes known than other specialties such as pediatrics or -- that deal with the problem?

A Not necessarily. Possibly, but I don't know that I agree with that.

Q Have you ever looked at any ACOG technical bulletins?

A Probably, yes, along the years. Not about smoking, though.

Q Okay. If I asked you any questions about whether or not you agree with what's in this ACOG bulletin, I assume that you would defer to an obstetrician or gynecologist?

A I would.

Q Such as the effects of birth weight -- the effects on birth weight, prematurity of maternal smoking, that's something that you're not going to agree with or disagree with or offer any

opinion on one way or the other --

A That's right.

Q -- is that correct?

I asked you earlier, briefly I guess, about the textbook that you sent us as part of your disclosure. That was the Mausner -- "Meisner." You indicated it was a valid book, it's reliable, reference book, it's a place you would turn if you needed information.

A I don't believe I've ever used even the term "reliable." It's a standard textbook, I said, at Johns Hopkins. It's a good textbook.

Q It's not reliable?

A Well, when I say reliable, I mean one thing; when you say reliable, you mean another.

Q Well, it's authoritative then?

A I don't -- that's even worse. It's a standard textbook. I used it. I like it. I refer to it.

Q Okay.

A In that sense, it's reliable. I trust it. Does that mean every word in it is correct? Well --

Q Obviously it's written in terms you can understand.

13 1 A Yes. Simple terms.
2 Q This is a book that you studied with
3 did you say at Johns Hopkins?
4 A Yes.
13:14 5 Q Do you have any part of it in front of
6 you?
7 A No.
8 Q Okay. There are just a couple things
9 I want to briefly touch on in the book, Doctor.
13:1410 MR. HLAVINKA: I wonder if you
11 might step around and let memorial read over your
12 shoulder as you read if you intend to read.
13 MR. GIBLIN: That's what I'm
14 trying to decide.
13:1415 Q (By Mr. Giblin) Well, Doctor, in the
16 text, let me show you this, on page 103, this
17 epidemiology text is talking about the costs
18 associated with, I believe is the wording, preterm
19 babies being delivered?
13:1520 A Yes.
21 Q Is that right?
22 A Yes.
23 Q Okay. Speaking in terms of risk
24 factors or things associated such as smoking, it
13:1525 mentions alcohol, then it talks about some numbers

down there.

A Yeah.

Q My question to you is, What are the numbers that are quoted in that text as being associated with the care of preterm babies?

A Average length of stay in neonatal care unit is estimated to cost 8,000, range 1 to $40,000.

Q Okay.

A For preterm birth -- well, go ahead.

Q Okay. Does that sound like a reasonable estimate to you of the costs associated with preterm?

A No.

Q What --

A Sounds too low.

Q Too low? What are the costs?

A I don't know. But this is, I think, out-of-date.

Q Do you know the date of textbook?

A I was just looking. I think it's probably '87 or '88. I was just looking. Mausner is dead now so -- for some reason it's not -- somewhere in the book there's got to be a page that has the date of publication, but it's not in

here.

Q Okay. That's fine. I couldn't find it either.

A I used it in '91, '92. It was before that.

Q The other point I was going to ask you about, Do you recall in the book itself it makes the conclusion the causal analysis, if you will, and reaches the conclusion utilizing the analysis in this book that cancer causes -- excuse me -- smoking causes lung cancer. Do you remember that?

A No, I don't. That doesn't mean it's not in there, it's just that I haven't referred to that in years.

Q Okay. It begins at page 185 and continues on, oh, for a number of pages, until on page 191, the text states that "the weight of the evidence for causal role of cigarettes is so massive that most scientists find it totally persuasive." They talk about the 1964 surgeon general's report.

A I told you it was a good book.

Q Okay. I think we can agree on that point that that is a good part in this book.

I noticed that you had training,

Doctor, in psychiatry?

A I'm sorry.

Q You had some training in psychiatry, obviously.

A Well, I have had training in psychiatry and I'm in the American Board of Neurology and Psychiatry, which is a joint board. That doesn't mean I'm boarded in psychiatry, but that's been my interest. And I have been in -- in every academic position I've had, I've had an appointment in the department of psychiatry. In fact, I've run neuropsychiatric conferences on pediatrics in both Maryland and Arkansas. I'm not boarded in psychiatry.

Q Do you know who Dr. James Giannini is? Have you ever heard of him?

A Do you have the spelling?

Q It's G-i-a-n-n-i-n-i.

A No.

Q Okay. I will tell you that Dr. James Giannini is editor of Drugs of Abuse. I can tell you he is an expert -- one of your experts in the tobacco case on behalf of tobacco companies. I want to direct your attention to page 399 of this chapter. The entire chapter is here, but 399

dealing with nicotine. And again, I'm going to ask you, do you agree with the statements made by Dr. Giannini.

First, it states, Despite numerous studies revealing that cigarette smoking increases the risk of spontaneous abortions and has perinatal consequences, including increased risk of perinatal and neonatal morbidity and neonatal increased -- excuse me -- and mortality, increased risk for birth defects, low birth weight, increased risk for sudden infant death syndrome, and has risks that continue on through childhood, including impaired scholastic ability and increased risk of mortality even until the age of five. And despite intensive efforts to educate the public of these findings, the rate of cigarette smoking during pregnancy has not gone down. Do you agree with that? Does that make sense?

A That's about -- that's about 20 different statements. What a ridiculous sentence. The only thing I would even comment on is the increased risk of birth defects, which I do not agree where. There is no evidence of that. And we've seen studies today.

13:21 The other ones, some of it I would defer to the neonatologists. I have no evidence of impaired scholastic ability. And I don't know where he gets increased risk of mortality to age five. None of this is referenced, so I think that is a statement I would not be able to accept in general, and the specific issue of birth defects I would disagree with.

Q Okay. Next, a 1963 study in Houston revealed that the incidence of smoking during pregnancy was 20 percent, and the incidence has remained the same for the last 20 years. It is estimated that one-third of adolescent females in the United States smoke. Does that make sense to you? Is that consistent with any figures you may have heard?

A I believe it's low. The figure in Texas is about 22, 24 percent, I believe, in the latest behavioral study. I don't know Houston, per se. I know of no data. One-third of adolescent females smoke. You know, I -- it strikes me that's too high, but I would have to see the reference to that.

Q Okay.

A I don't have that knowledge

independently.

Q The article continues that "a drug dispensed by vending machines or grocery store checkout clerks seem too innocuous to be harmful." Do you agree with that based on the psychology training you've had and the psychiatry?

A I haven't had any training in that field of marketing or behavior of adolescents like this. I wouldn't be able to say.

Q Do you have -- what is your understanding as to why adolescents, teenagers, young teenagers begin to smoke? What causes them to smoke?

A I don't know what -- I have no -- I've had no experience in studying or reviewing the literature on the marketing influences of adolescents or the behaviors that lead to them smoking, so I don't have any opinion on that.

Q I want to drop on down to the third paragraph, Doctor, something in your arena. It's talking about -- he's talking about the paragraph above, the birth weight issue, the low birth weight issue, babies being shorter. Then the third paragraph he states, "As these babies are followed throughout infancy, they're found to be

13:24 1 less alert than their peers. Bailey Scales of
2 Human Development reveal a dose-response
3 relationship with those infants whose mothers
4 smoked heavily during pregnancy having lower
13:24 5 Bailey scores than infants whose mothers did not
6 smoke or who smoked moderately." Do you agree
7 with that? Are you aware of --
8 A I don't have the -- this is a
9 reference to Hill and Tenipson on maternal drug
13:2410 therapy. It sounds like a general review
11 article. It says the effect on fetal and neonatal
12 growth and behavior, 1986. I've not seen that
13 reference. So I agree that that's what Giannini
14 is saying that the study says, but I don't
13:2515 necessarily know that's accurate and I certainly
16 don't necessarily agree with the conclusions.
17 Q Okay. The next sentence, But the
18 onset of latency to these vulnerable children may
19 begin showing symptoms of attention deficit
13:2520 hyperactivity disorder. Overall ability may be
21 compromised as Butler and Goldstein found in
22 significant deficit -- found a significant deficit
23 in reading, comprehension, and mathematical skills
24 in 11-year-olds born to mothers who smoke. Make
13:2525 sense to you? Do you agree with that?

A I don't -- I agree that's what it says. I don't have that study.

MR. HLAVINKA: Are we attaching that as an exhibit? Has it been marked?

MR. GIBLIN: Has not been marked yet. Needs to be marked if you would, please. Thank you.

MR. HLAVINKA: Sure.

Q (By Mr. Giblin) Doctor, you were talking about Syria earlier.

A Okay.

Q If you want to look through that we'll wait.

A I would like to get a copy of it, though.

Q We're going to attach it as an exhibit.

A I would like to get a copy, especially the references.

(Deposition Exhibit 21 was marked.)

Q (By Mr. Giblin) The chapter of the text Drugs of Abuse has been marked as Woody Exhibit Number 21.

Looking at your CV, Doctor, you have

indicated that you're doing some work involving the pediatric health system in Syria.

A I did in '92 and '93. Some of it was just presented in American Academy of Neurology this spring.

Q How did you get into that, into Syria?

A That's a long story. But I was a Fulbright scholar in Damascus in the University of Damascus in '92 and '93, and there was a lot of very interesting things to study. I used my epidemiology and statistical tools with the software and a computer to do things that had never been done there before.

Q Did you end upsetting up some program for them or --

A I taught child neurology and biostatistics and public health and epidemiology to the medical school, and then I made a whole lot of contacts. I go back once a year or more.

Q I'd asked you earlier about if you smoked, and you indicated that you smoke a pipe -- I mean a -- what you call a bong?

A Yeah. Bong.

Q Okay. Tobacco, right?

A It's tobacco with -- it's a product of

Egypt where they add honey and apple and fruit flavors. And it becomes very pleasant, soft.

Q Do you buy that here in the States?

A Yes. Are you going to go after the Egyptian tobacco industry next?

Q Do you have a good address for service?

But as far as the smoking, have you ever smoked, you know, cigarettes that we have?

A I've never smoked a cigarette.

Q Okay. Are you married?

A No.

Q Smoke cigars?

A Never. Maybe once when I was drunk I smoked a cigar.

Q Have you had occasion to -- I think we've already covered this, but you have on occasion counseled women -- pregnant women to not smoke, I take it -- or to quit smoking if they're smoking?

A Yes. I would routinely do that.

Q Because obviously it's better for the baby if they're not smoking?

A I would routinely counsel any woman not to drink, not to smoke, not to use drugs, to

have good nutrition, to exercise, to keep appointments; but yes, I think it would be better for her baby if she didn't smoke.

Q Well, since you named the things you would counsel them not to do and what to do, what would you rate more important? Not smoking or exercising?

A I've never thought of that. I don't know how I would put them in order. I think there is a standard of good practice among obstetricians and family practitioners in what to recommend among mothers. If I was in that situation, occasionally I am, I would recommend all of the factors. I wouldn't particularly pick out one.

Q Have you kept up generally, Doctor, with the surgeon general's reports?

A No. Only what I hear in the news.

Q You've never read them?

A Never. I probably know basically what they say from the what I read in the newspapers, but no, I've never read the reports.

Q Are you aware of how this report gets generated? For instance, the 1990 Surgeon General's Report?

A No. I'm not aware of the process.

Q Are you aware -- are you aware of the extensive peer review that goes into that document?

A I'm not aware of it, but I would expect extensive peer review. I would hope there would be.

Q Do you give the findings of the surgeon general in his reports special significance? By that I mean --

A Yes.

Q -- if they tell you something, you can believe in it, it's credible evidence?

A I wouldn't believe in it necessarily as much as give credibility to it and expect that it had been arrived at by consensus from many different social and lay and medical and political and legal inputs. For that reason, I would give it credibility.

Q Okay. Since the early '70s, Doctor, the surgeon general has made findings concerning maternal health, smoking, outcome of the pregnancy, and they have all been published throughout the years. And in 1990, they, in introduction, make reference to the things that have been established, okay? For instance, on

page 371, I will read to you, it -- I will ask it a different way. Have you heard this? Have you heard this? Is it your understanding that this was the state or is the state of medical information on this point: "Early reports of the surgeon general concluded that maternal smoking during pregnancy retards fetal growth and is a probable cause of late fetal and infant mortality." Now, is that your understanding of the state of the medical knowledge at this point in time as we sit here today on those issues?

A Well, as I already said, I'm not aware that smoking is a cause of mortality, especially in -- before five years of age, which is -- the Giannini article had mentioned without a reference. I don't disagree with what that says in that that's a consensus opinion.

Q Would you agree that the surgeon general's opinion is due great deference and should be given very high marks, if you will, on the reliability standard?

A Well, I would agree with that until Jocelyn Elders became surgeon general, who is a friend of mine, by the way, from Arkansas. Her opinions weren't very respected.

Q Okay.

A But in regard to the smoking, I give full credence and respect to the opinions of the surgeon general. That doesn't mean they're right. That doesn't mean they won't change. But the process by which they're ultimately published I think deserves respect.

Q Sure. You wouldn't be aware of any document that undergoes more peer review than the surgeon general's report before it comes out?

A Oh, I'm sure there are many documents that undergo far more peer review than the surgeon general's report, but I'm not aware of them. I mean, there are many mention that probably are reviewed much more meticulously than that.

Q Are you aware of any disease that has ever been investigated more thoroughly than smoking?

A No.

Q This is it, isn't it?

A This is it. We need no more studies.

Q In fact, again looking at the surgeon general's report, 1990, they state, "Tens of thousands of studies have documented the associations between cigarette smoking and a large

number of serious diseases. It is safe to say that smoking represents the most extensively documented cause of disease ever investigated in the history of biomedical research." Do you agree with that?

A I already said I did.

Q Okay. Again, getting back to the baby issues, maternity issues, the 1990 summary again states that the 1977 report of the surgeon general concluded that smoking during pregnancy has a dose-response relationship with abruptio placenta, placenta previa, bleeding during pregnancy, premature and prolonged rupture of membranes, and preterm delivery. Is that your understanding of the state of the medical knowledge with regard to those issues at this point in time?

A It probably is, but I would -- again, an expert witness in OB/Gyn would have a much more accurate assessment of that statement.

Q You have no reason to question what's contained right there, though, correct, Doctor?

A No, I don't.

Q I want to take a look at your report now, Doctor. It's been marked as Woody Exhibit Number 1. Again, your report, as you have pointed

out, Doctor, is limited to the area of pediatric neurodevelopmental disturbances which were reportedly associated with maternal smoking during pregnancy; is that correct?

A That's right.

Q Again, at the time of trial that is the area where your testimony will be centered; is that correct?

A That's correct.

Q You -- in the middle of the second paragraph -- excuse me -- paragraph, you talk about risk factors for pediatric neurodevelopmental disturbances. You mention prenatal and perinatal injuries such as prematurity and low birth weight, growth retardation. Those are three that you have mentioned; is that correct, Doctor?

A Yes.

Q I read that to say that a risk factor for neurodevelopmental disturbances is obviously prematurity, low birth weight, and growth retardation. Fair statement?

A Yes.

Q And if it is shown that smoking -- maternal smoking causes prematurity, low birth

13:38 1 weight, growth retardation, then it would be
2 logical to say that maternal smoking is then a
3 risk factor for neurodevelopmental disturbances?
4 A It wouldn't be logical at all to say
13:39 5 that. You can have prematurity, low birth weight,
6 and growth retardation from many, many, many, many
7 things. And that, as a category of risk factors,
8 is not the same as saying prematurity due to
9 smoking or low birth weight due to smoking or
13:3910 growth retardation due to smoking.
11 Q Okay. Maybe I'm not asking it the
12 right way, then. If it is shown that maternal
13 smoking is a cause of prematurity, is a cause of
14 low birth weight, is a cause of growth
13:3915 retardation, and that we know that those are risk
16 factors for neurodevelopmental problems, okay, the
17 neurodevelopmental disturbances, it would seem to
18 me it then could be said that maternal smoking is
19 a risk factor for neurodevelopmental
13:4020 disturbances. Is that a fair statement?
21 A Well, I see what you're saying. But
22 for instance, prematurity that leads to
23 intracranial hemorrhages in the preterm baby, even
24 if the mother smoked, it's the hemorrhages which
13:4025 are the transition from the prematurity to the

neurodevelopmental problems. If the mother smokes or if she doesn't smoke, if she gets a cytomegalovirus infection that affects the baby's brain and he's growth retarded, the problem is CMV -- or cytomegalovirus -- it's not the smoking. I mean, at least the predominance of the evidence would -- I think everyone would agree. Smoking or no smoking, it's the infection that's caused the neurodevelopmental problem. Both have the common sequelae of growth retardation.

Q Okay. Let me ask you this, then: Would you agree that if maternal smoking causes prematurity, low birth weight, growth retardation, and those are risk factors for neurodevelopmental disturbances, that maternal smoking in the context of those three risks for maternal smoking -- let me back up. It's getting a little too disjointed here.

Let me ask you this, Doctor, and I know we've covered this, but do you agree or disagree that maternal smoking is a risk factor for prematurity, low birth weight, or growth retardation?

A Well, that's not the reason I'm here today, and I think that question would be better

13:42 1 answered by the perinatologist or neonatologist.
2 Q If the question is answered in the
3 affirmative that maternal smoking is a cause of
4 low birth weight, is a cause of growth
13:43 5 retardation, okay, in that event, would you agree
6 that maternal smoking would be a risk factor for
7 neurodevelopmental disturbances? Not direct, but
8 indirect, in causing -- in causing this other
9 event to occur that --
13:4310 A Well --
11 Q -- in turn -- do you understand what
12 I'm saying?
13 A I can see how you're constructing the
14 issue. But the bottom line would still be then
13:4315 proving that hypothesis, and that would then
16 correlate smoking in a dose-response way to birth
17 weight in a dose-response way to
18 neurodevelopmental outcome. And unfortunately, as
19 this statement says, this is a very difficult
13:4320 business because these are not lab animals.
21 There's a hundred other variables going on that
22 are confounders. So I can see the hypothesis that
23 you're raising, but I hesitate to agree with it
24 because it's a very complicated issue.
13:4425 Q Okay. Turning the page to the second

page, Doctor, that second paragraph, you're talking about the Drews study. I think we've already talked about that, right?

A Yes.

Q The way you feel about that.

A What do I feel about Drew (sic)?

Q No. We talked about the way you feel about that study.

A Yeah. I think so.

Q The paragraph dealing with Demographics and Risk Factors for the Medicaid and Charity Population in the Texas-Mexico Border, we've talked about this issue. Again, I'm not sure why that is in here -- in your report, I guess.

A Okay. That's a good -- I'm glad you brought that up. The focus, as I understand the litigation, is recovery of costs in the Medicaid population in Texas; is that correct?

Q Sounds reasonable to me.

A All right. I take care of a large -- more than half -- two-thirds of my population is Medicaid. An important sector of the Medicaid population is the Hispanic population because it is a very poor -- socioeconomically a very poor

portion, disproportionate amount of Medicaid dollar is spent on that. It is a population of extremely high fertility rate, of high infant mortality, of low maternal education, and on and on. What this is here for is to suggest that the Texas Medicaid population is, in fact, not representative of national population figures or is not readily comparable to other Medicaid data from other states.

In other words, that the Medicaid population in Texas has even additional risk factors that confound the issues as we've outlined in the studies today, factors which make it even more hard to isolate any single factor as being attributable to -- as a cause, quote, unquote, of disease, hospitalization, hence expenditure of Medicaid dollars.

Q Okay. How many other little pockets of I guess skewed accumulations of minorities do we have in Texas other than the what you're talking about on the Texas-El Paso-Mexican border?

A Well, I think if you look in the Medicaid demographics and the Medicaid in perspective, there's many. In East Texas, rural -- I mean the rural population as a whole in

Texas, urban black populations. There's Asian populations on the coast. So there's several. What I'm saying here is not representative of all Texas. It's representative, though, of 25 percent of Texas, or at least of that ethnicity. 25 percent of Texas, in fact, is Hispanic.

Q You're talking about the experience in the Texas -- in the El Paso, Texas, area; is that correct?

A I'm talking about that in the most focused way, but in general -- in more general about the Hispanic population, which is about probably 5 million, and then of the Medicaid population, because I feel entitled to talk about that if I'm taking care -- if two-thirds of what I do is in the Medicaid population.

Q Wouldn't you agree with me, though, Doctor, every state, every state has got their pockets of skewed minorities or pockets of people that are living in an area that are heavy drinkers, binge drinkers, that are obese, that tend to be sedentary, that ever state has got these people in their population?

A Every state does, but few states have it to such a proportion that Texas does.

13:48 Q You're saying that in Texas, our proportion of the binge drinkers, the obese people -- I don't want to --

A No, I'm not saying that. In fact, if you look at the behavioral rating scales, it does not support that in those particular things. Obesity is, in fact, slightly higher. Binge drinking is lower. Driving without seat belts is lower. But poverty is higher. The percent of the population on Medicaid is higher. The number of people on Medicaid is higher. The diet is worse. The access to medical care is far worse. The fertility rate is far higher. Infant mortality rate is higher. So there are -- of course it's a mixed bag. Every state has it own mix. But there are things that stand out in Texas Medicaid that make it a particularly high-risk population.

Q Are you aware of any adjustments that can be made to the national Medicaid numbers that could be used to extrapolate and apply those to the State of Texas to use?

A That's very complicated. No, I'm not aware. I wouldn't be able to answer that. I wouldn't know how to deal with it. It would be very complicated.

Q Again, in this case --
A No.
Q -- you're not going to be attacking any damage evidence or --
A No.
Q -- anything?
A My only point in including that was that given my experience, I feel entitled to point out that this population by -- you could go by 20 parameters, has special -- is a special situation and has even additional confounders that might not apply if you look at the nation as a whole.
Q You've looked at national statistics that deal with the issues similar to what you've got in the El Paso area?
A The data I gave you, for instance, Medicaid in perspective, will give those to you.
Q Okay. You make the final statement that "the use of a national statistical model or epidemiological data based upon national demographics is inappropriate to determine the impact of any particular risk factor upon disease prevalence and associated medical expenditures within the Texas Medicaid population." This is something you've not tried to do, correct?

A No, I haven't created any computer model, no.

Q Okay. Are you --

A And I won't.

Q Are you saying that the State of Texas shouldn't do that? They shouldn't try to create a model that extrapolates the information to show the -- are you saying they can't do it?

A No. Of course they can do it, but they can't use national norms. See, whenever you compare something, you've got to compare it to something else. And we can't take the Texas data and compare it to Iowa or Washington, certainly. I think all of us would agree with that. Can we compare it to California or Florida? Maybe. But it should be very verified that that's accurate before we accept. Can we compare it to the nation as a whole? Probably not, because we're going to fall below in almost any 50th percentile -- measure of any parameter, we're going to fall below the 50th percentile.

Q But again on this issue, you're not going to be offering any testimony or doing any work with regard to a national statistical model being applied to the State of Texas?

A No. But I would, if given the opportunity, describe the particular risk factors that Texas Medicaid population and, in particular, the Hispanic population face that make it at higher risk of adverse developmental outcomes in their children.

Q And those risk factors are contained in your report that you're talking about?

A Well, that and also we reviewed most of it today.

Q That being what was contained in some of these documents?

A Yes. All of it is in the documents, yeah.

Q Okay. Again, with regard to the risk factors, you're getting outside the area of the pediatric neurodevelopmental issue, right?

A Definitely.

Q All right. You're speaking -- in looking at the second page, you're talking about, "This data suggest many risk factors in Mexican-American border communities in Texas that could result in a neurodevelopmental disturbances in children and in other adverse health outcomes." Okay. What other adverse health

13:53 1 outcomes are you talking about?
2 A Well, I guess if I had to do this
3 again, I would scratch that. In fact, I'm willing
4 to revise it and scratch it if you like.
13:53 5 Q Tell me how you would revise it.
6 A Just scratch out "other adverse health
7 outcomes" to be in conformity with what we've
8 talked about the last several hours, and limit it
9 to neurodevelopmental. If you would like, we can
13:5310 do that.
11 Q That's up to you. Because I was going
12 to ask you, Well, Doctor, are we going to talk
13 about heart disease --
14 A No.
13:5415 Q -- incidence of stroke, peripheral
16 vascular disease. That's what I was going to ask
17 you?
18 A What we can do is revise that and
19 submit it somehow -- I don't know what the process
13:5420 is -- if you like. Because I would like to limit
21 it to two things: neurodevelopmental outcome in
22 the offspring of smokers, and an examination of my
23 experience with -- in light of my MPH, my
24 experience in third-world countries and the fact I
13:5425 practice in a Hispanic Medicaid population. Those

.54 1 two things.
2 Q With regard to that, the experience
3 you have in practice, you're nothing going to be
4 talking about the risk factors for coronary artery
13:54 5 disease?
6 A I will not.
7 Q Lung cancer, how binge drinking
8 affects that, how being obese affects coronary
9 artery disease, that sort of thing?
13:5410 A (Witness shakes head.)
11 Q See what I'm getting at?
12 A I will not.
13 Q Because we've talked about all these
14 things and you said you have no opinion on them.
13:5415 A I'm going to talk about the
16 confounding factors in the medicated population,
17 in particular the Hispanic population, that make
18 interpretation of the simple hypothesis that
19 smoking causes neurobehavioral problems almost
13:5520 unanswerable, and also that this population cannot
21 be compared to national standards because it is a
22 unique population.
23 Q And you'll talk about just why they're
24 in a unique --
:5525 A Exactly.

Q -- not that they have additional risk factors for developing any other disease, any disease in general?

A I can agree to that.

Q I mean, I'm just making sure we're on the same page here.

A I understand. I understand why you're doing it. And I have no interest in getting into other organs other than the brain.

Q Okay, Doctor.

MR. GIBLIN: If you could give me a minute, I may be done. Let me just take a look.

THE VIDEOGRAPHER: We're off the video record.

(A recess was taken.)

THE VIDEOGRAPHER: We're on the video record.

Q (By Mr. Giblin) Doctor, I may have just one final question for you. Do you plan on doing any additional literature review or literature search prior to the time of trial?

A When is the trial?

Q End of September.

A I might pursue the references on the

:59 1 conduct disorder article then I might pursue
2 talking to Dr. Schydlower, since I'm with him in
3 El Paso. And by the way, is he a witness in this
4 case? He should have been, shouldn't he? Then I
14:00 5 might pursue this article. So it's possible I
6 would. If I do, I will let Mr. Hlavinka let you
7 know.
8 Q Okay. Do you plan on preparing any
9 supplemental report after the first one?
14:0010 A Only the deletion on that previous --
11 that previous deletion that -- on the report I
12 mentioned. I guess that will be prepared by
13 you-all or something and I'll sign it.
14 MR. HLAVINKA: We can simply here
14:0015 I suppose strike the words "and in other adverse
16 health outcomes."
17 Q (By Mr. Giblin) We've got your sworn
18 testimony, Doctor, that you're not going to
19 testify about any other adverse health outcomes.
14:0020 A Okay.
21 MR. GIBLIN: Thank you, Doctor.
22 Appreciate it.
23 THE WITNESS: Thank you.
24 THE VIDEOGRAPHER: We're off the
·0025 video record.

STATE OF TEXAS X

COUNTY OF DALLAS X

I, Ronald R. Cope, a Certified Shorthand Reporter duly commissioned and qualified in and for the State of Texas, Registered Professional Reporter and Certified Realtime Reporter, do hereby certify that there came before me on the 21st day of July at Jones, Day, Reavis & Pogue, located at 2001 Ross Avenue, Suite 2300, in the city of Dallas, County of Dallas, State of Texas, the following named person, to-wit: **ROBERT WOODY, M.D.**, who was duly sworn to testify the truth, the whole truth, and nothing but the truth of knowledge touching and concerning the matters in controversy in this cause; and that he was thereupon examined upon oath and his examination reduced to typewriting under my supervision; that the deposition is a true record of the testimony given by the witness, and signature of the witness is to be before any notary public and returned within 30 days from date of receipt of transcript.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action in which this deposition is taken, and further that I am not a relative or employee of any attorney or counsel employed by the parties hereto, or

financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 4th day of August, 1997.

Ron Cox

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Charge for transcript and exhibits $ _____

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